A5135-24 5/87

Eleventh Annual Edition

United States-German Economic Survey 1985

German American
Chamber of Commerce
Inc.

Deutsch-Amerikanisches Wirtschaftsjahrbuch

AS LONG AS THERE ARE PEOPLE WHO CAN AFFORD PERFECTION, BMW WILL CONTINUE TO PURSUE IT.

"Life," the accountants often say, "is a series of compromises."

If you can afford to ignore this wisdom, we'd like to present a car that disdains it, too: the new 635CSi coupe.

Priced at about $40,000,* the 635CSi displays what can be achieved when engineers are free from the usual cost constraints of mass production.

And when, of course, they have an ideal worth pursuing in the first place.

THE GRAND COUPE THAT IS UNABASHEDLY GRAND.

In the case of the 635CSi, the ideal is a very aristocratic one: the European Grand Touring tradition, combining uncommon style and luxury with definitive performance.

The 635CSi fulfills the first two criteria even before you turn the ignition key.

Its body panels and exterior surfaces are meticulously hand-fitted and hand-examined.

Its amenities include supple hand-stitched leather seats, an electric two-way sunroof and cockpit-like ergonomics. "And everything is put together as if lives depended on the coupe's solidity" (Car and Driver).

But it's when you actually turn the key that you discover just how far this car advances the cause of Grand Touring.

BMW ENHANCES GOING AND STOPPING ALIKE.

The coupe's new 3.5-liter power plant propels it from 0 to 60 in 7.8 seconds. A prowess abetted by a fuel management system that adjusts fuel delivery and ignition timing hundreds of times a second.

You should also appreciate another new 635CSi feature: a computerized ABS anti-lock braking system.

Operating on the same principle that brings jet aircraft to a halt, it prevents brake-locking. And permits steering even during panic stops.

The new 635CSi, in sum, confirms the BMW coupe's position as "the benchmark" without which "you won't know how to judge anything else" (AutoWeek on the 633CSi).

As well as the managerial astuteness of a car company where even the head of finance is an engineer.

A handful are at BMW dealers now, awaiting test drives by automotive enthusiasts who also do not have to report to accountants.

THE ULTIMATE DRIVING MACHINE.

*Manufacturer's suggested retail price: $41,315. Actual price depends on dealer. Price excludes state and local taxes, dealer prep and handling charges. ©1985 BMW of North America, Inc. The BMW trademark and logo are registered. European Delivery can be arranged through your authorized U.S. BMW dealer.

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Issued January 1986

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INGERSOLL-RAND COMPANY
INVESTMENT SUMMARY
AS OF: 06/10/85
LL INVESTMENTS
GROUPED BY:PORTFOLIO
CHASE
INSTRUMENT
ISSUER
EFFECTIVE RATE
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--- MATURITY ---
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TOTAL: IR SAL
105,000.
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The Chase Partnership at work. Seated from right to left: William J. Armstrong, Treasurer, Ingersoll-Rand; Anthony Constantino, Manager-Cash Operations, Ingersoll-Rand; Marie McCabe, Assistant Manager-Cash Operations, Ingersoll-Rand. Standing from right to left: Stephen Hunter, Chase Relationship Executive, Corporate Banking; Harry J. Dickman, Chase Manager Electronic Banking.

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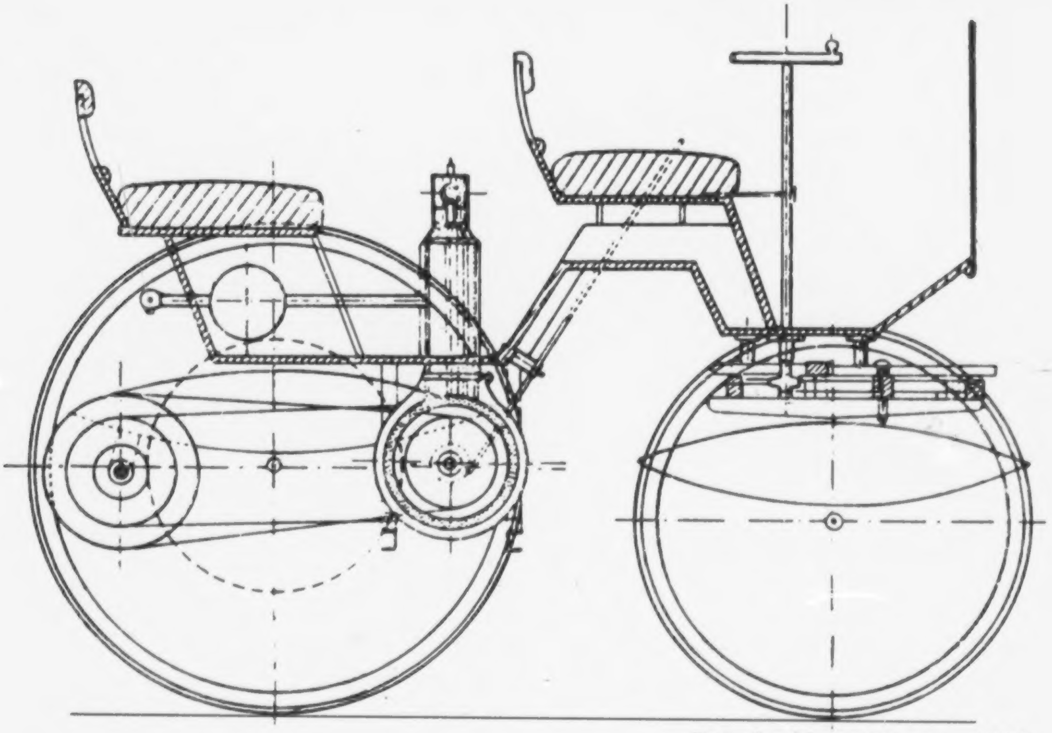
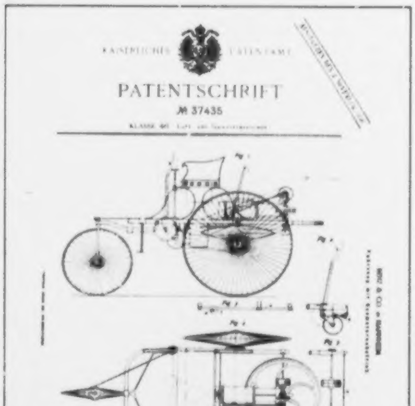


Daimler Motor Carriage 1886

Engineer all other cars



KAISERLICHES PATENTAMT

PATENTSCHRIFT

№ 37435

It was on January 29, 1886, that the German Government issued Patent No. 37435 to the engineer Carl Benz for his invention of a self-propelled, gasoline-powered "Motorwagen."

Simultaneously with the achievement of Benz, fellow engineer Gottlieb Daimler built and ran a motorized carriage of his own.

The Benz patent was to become the official birth certificate of the automobile. Joint credit for developing the world's first practical motor vehicles has belonged to Gottlieb Daimler and Carl Benz ever since.

Next January 29 in Stuttgart, West Germany, in formal ceremonies attended by governmental, scientific and industry leaders, we will officially commemorate the precise day the automobile started. And the two men who started it.

We could do no less. For the efforts of Gottlieb Daimler and Carl Benz, after serving to

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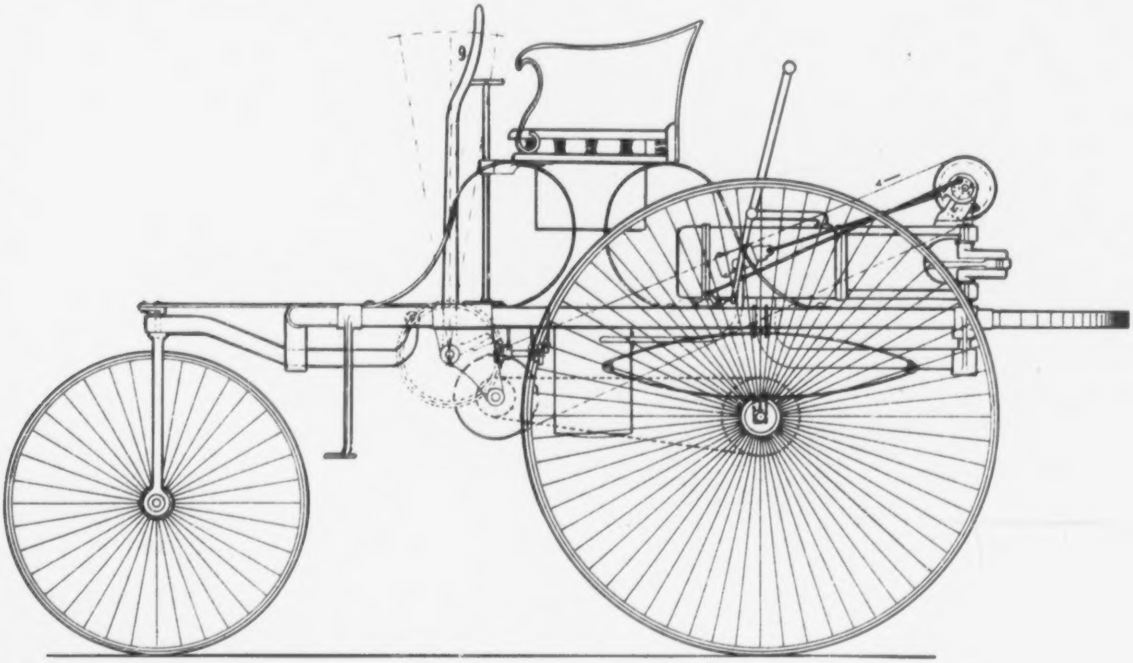
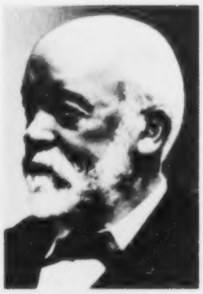
100 YEARS



Benz Patent Motor Car 1886

ed before in the world

Carl Benz



Gottlieb Daimler

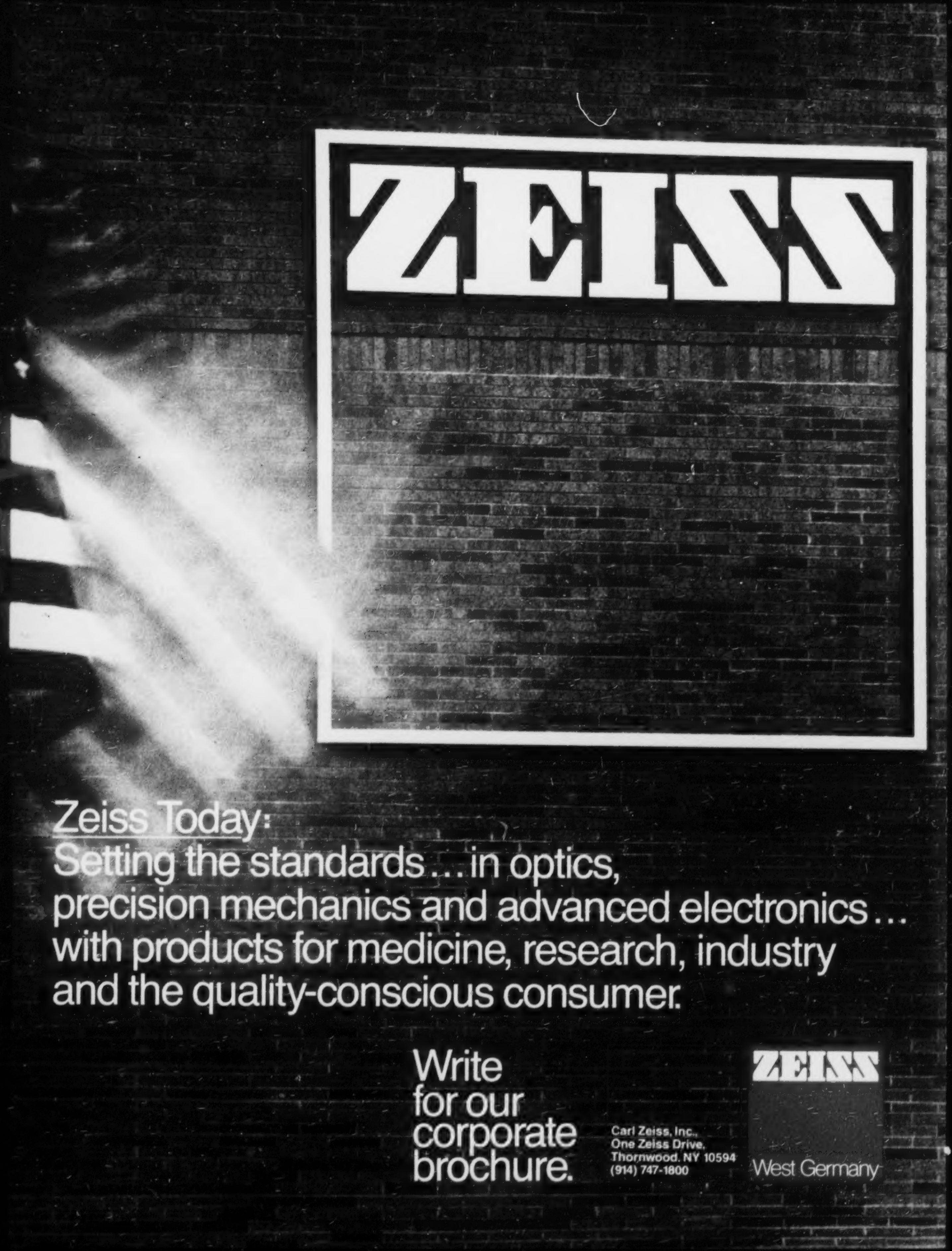
found the age of the automobile, were to ultimately found the company that today bears their names: Daimler-Benz A.G., builders of Mercedes-Benz automobiles.

Daimler-Benz has always been not only conscious of this unique legacy but inspired and nourished by it. From it have sprung thousands of engineering patents, 4,400 competition victories and five world racing championships, and hundreds of primary innovations, from the supercharger to the diesel automobile to gasoline fuel injection.

We will be proud to honor the memory and the achievements of Gottlieb Daimler and Carl Benz in that special ceremony next January 29.

But in another sense, Mercedes-Benz honors them every day—by building automobiles worthy of their names.

Engineered like no other car in the world



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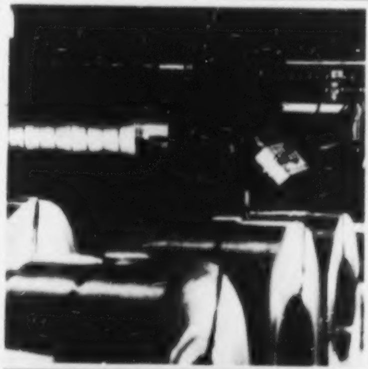

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1

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Wire and Wire Products

Thyssen Specialty Steels
New York

Stainless, Tool and
Bearing Steels

5

Industrial Products

Thyssen Rheinstahl Technik Co. · Atlanta

Equipment, Machinery, Industrial Products (Specialty Chains, Forgings, Castings) Equipment and Parts for Offshore Rigs and Platforms · International Industrial Construction Services

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Marion, IL

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2

Steel Service Centers

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Thyssen Metal Service/Southwest
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Thyssen Metal Service/West Coast
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3

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Morgan International Corporate Area officers discuss market developments. Shown in New York, from left, are: Hanjo Roosen, Kimberly Perkins, Robert von Tobien, Edmond Carton, Seija Hurskainen. Standing: Harvey Struthers, John Comfort, and William Holding, area head

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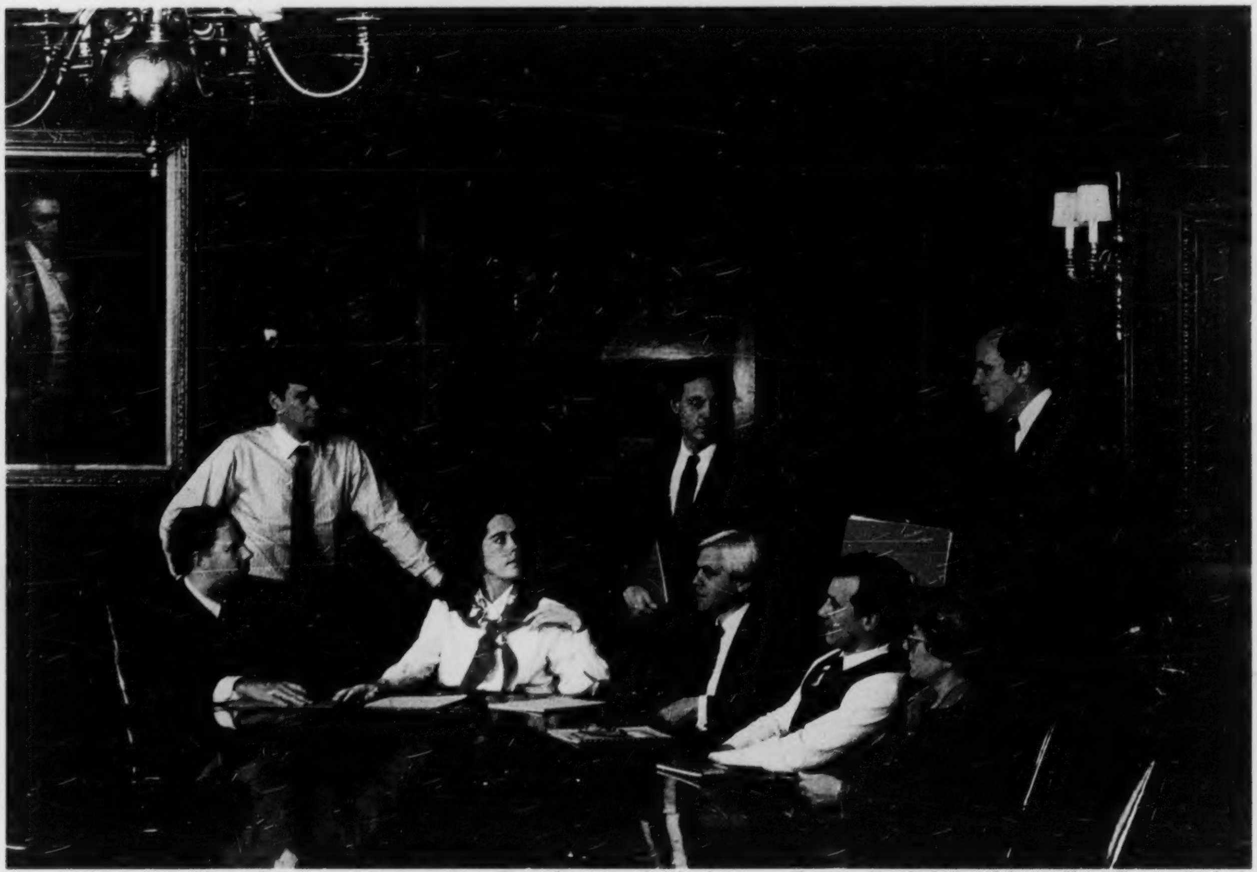

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Geldmarktpolitik und ihre Abhaengigkeit vom Welthandel

Monetary Policy and The Interdependence of World Trade

Address delivered at the XIII American-German Biennial Conference, Dallas, March 1985

by Paul A. Volcker
Chairman
Board of Governors
of the
Federal Reserve System

Old friends from both sides of the Atlantic have labored long and effectively to enhance and preserve German-American relations. Maybe more important, there are, as well, younger people ready to carry the work forward. Various meetings, conferences and bi-lateral organizations, outside of the context of official government to government relations, exist for communication and to foster cooperation between the Federal Republic and the United States. Their importance lies in being catalysts for something much larger. They are part of a common cause – the *gemeinsame Sache* – that has inspired the relations between our two great nations over the postwar era.

That common cause is built on a solid foundation – a mutual respect through the years for the basic principles of market-oriented economies, of freedom of trade and capital movements, of stability, and of democracy and of the interdependence of our security.

But however strong, common foundations do not automatically result in harmonious architecture or understanding relationships among different households. That takes constant nurturing and effort. Under the inspired leadership of John McCloy and Chris Emmett on the American side, and with Konrad Adenauer helping to inspire the work of some eminent and thoughtful Germans, a real impact was made at a critical time. These leaders were wise enough to recognize that, for all the antagonisms and distortions of war, the foundation was there, and that an edifice of productive cooperation could be rebuilt – that indeed it would be an essential to peace and prosperity more generally.

How accurate their perception was!

Of course, the specific challenge then seemed quite different. America appeared as a kind of colossus standing astride a largely shattered world economy – and also a strong beacon of hope to younger Germans looking toward finally building a stable democracy from the ruins of the past. For our part, farsighted men saw that our own prosperity and security could not be pursued in isolation, but only as a part of an Atlantic world in which a rebuilt Germany would naturally have to play a large role. In that context, there was a natural impetus among some key leaders of good will on both sides to reach out and work together – to put aside all the anger and divisive forces.

I suppose the celebration of John McCloy's 90th birthday symbolizes the passage of that era.

Germany has long since fully recovered economically. The plant of democracy is strongly rooted – and with it some of the diversions and uncertainties characteristic of democracies everywhere. Moreover, Germany plays a key role of leadership in the European Community that, economically, is as large or larger than the United States. So other preoccupations, inter-

That common cause is built on a solid foundation – a mutual respect through the years for the basic principles. . .

nal and external, political and economic, have quite naturally sprung up that can dilute the trans-Atlantic tie.

Among a new generation in both countries, without the fresh and personal memory of war and destruction, the strong imperative to work together may not be so instinctive. We both have other concerns – not necessarily inconsistent with close trans-Atlantic relationships – but perhaps turning more of our energies to other priorities.

Nonetheless, the foundation of common economic and political philosophies remains, and with it the common cause. We in both countries have a special responsibility to help maintain the flame – keeping the lines of communication and cooperation open among leaders, supporting contact and educational exchanges among new generations, and helping to identify and deal with points of friction as they emerge. In some ways, the job may be more difficult today than in the aftermath of war precisely because, on the surface, it may no longer seem so urgent – it's too easy to take a basic cooperation for granted. But the fact is the relationship needs constant attention lest we inadvertently drift apart.

. . .a high degree of understanding between the United States and the Federal Republic has been. . .natural because the basic market orientation of both countries has been so strong.

In the area of economic policy, a high degree of understanding between the United States and the Federal Republic has been – and I think remains – natural because the basic market orientation of both countries has been so strong, and because of our mutual concens about economic and price stability. Certainly, I can testify that relationships between our central banks and finance ministries are easy, personal, and more or less continuous – the old diplomatic phrase of "frank and full discussions" carries no ambiguous connotation in describing these contacts.

Naturally, economic performance has not always met our aspirations. Our fall from grace in the United States on the stability front during the 1970's was more marked than in Germany, and the weakness of the dollar at the time complicated the job of economic management in Germany. In these past few years, as we have struggled with some success to restore price stability, I sense German officials have been consistently supportive of the priority necessary for that effort. They have been so, even as the recovery and then soaring strength of the dollar again complicated Germany monetary management. I suppose that welcome support for our efforts is instinctive for a country whose central bank, at its creation, received a special charge as *guardian of the currency* in recognition of the fundamental priority for stability in a well-functioning economy.

. . .relationships between our central banks and finance ministries are easy, personal, and more or less continuous. . .

Today, we can observe in the industrialized world as a whole a pattern of converging price performance at a relatively low level of inflation. I know a lot remains to be done. But for the first time since the 1960's there has been clear progress toward the holy grail of stability – the internal stability that, we have told each other constantly, is the prerequisite for more stable exchange rates and for sustained and balanced growth.

I don't have to recite all the evidence that those fruits have been elusive. So far as exchange rates are concerned, the morning paper – the computer screen – reports more volatility, not less.

On the American side, after a deep recession, we have indeed had vigorous economic expansion – among the strongest in our postwar history. In two years, employment has increased by some 7½ million, and the unemployment rate has dropped by 2½%; more of our population is at work than ever before. Business investment has surged higher, and productivity trends have shown some signs of improvement from the poor record of the 1970's.

On the other side of the Atlantic, in contrast, Germany has found it difficult to generate new jobs despite some evident recovery in economic activity. And that pattern has been typical of Europe generally, with unemployment hovering around a postwar high of 20 million, even though most countries have benefited from strong markets in the United States. In Japan, growth has been faster, and unemployment remains low. But even more than in Europe, much of the expansionary impetus has come from abroad.

That contrast in recent performance has, as you know, fed and reinforced a striking change in psychology and attitudes toward the outlook in Europe and the United States – Europessimism on the one hand, and renewed confidence and optimism in the United States on the other. And that contrast in attitudes amplified the extraordinarily strong rise in the dollar over most of the past two years, even in the face of sharply rising trade and current account deficits.

The contrast in attitudes is, of course, more than an economic phenomenon. But an economist observing the history of the postwar period can, I think, raise some questions as to whether the swing in sentiment has not been overdone.

My own education and experience in international finance began in the 1950's, during the days of the so-called *dollar shortage*. And I well recall that, no sooner had we digested and half begun to believe all those learned treatises explaining why the demand for dollars would remain virtually inexhaustible, the facts and the perception changed. At the beginning of the 1960's, the Deutsche mark was revalued slightly upwards, and that was just the harbinger of a strong trend toward appreciation. Instead of dollar shortages, we soon began analyzing the "dollar overhang," and elaborate plans were spawned for funding or consolidating *excess* dollar holdings abroad. And in the 1970's, Germans could too glibly talk of the decay – *der Verfall* – of the dollar.

. . . I am also more than a little skeptical of the notion that Germany, and Europe as a whole, are somehow trapped in structural rigidities that doom it to slow growth.

Well, only a few years later, the dollar was born again – and we have heard much more talk of *super dollar* than of decay. Dollar assets have been described as the most attractive of all investments, seemingly oblivious of prevailing rates of exchange or the fact that we have been swinging fast from being the world's largest creditor to being its largest debtor nation.

Any central banker is inclined to like a strong currency – particularly one that reflects internal strength. I am no exception in that respect. There have indeed been solid reasons for the recovery of the dollar from the morass of the 1970's. But I am also more than a little skeptical of the notion that Germany, and Europe as a whole, are somehow trapped in structural rigidities that doom it to slow growth and leave little or no room for policy maneuver – or that the United States can safely relax in the glow of a strong cyclical expansion.

It's hard for me to forget, for instance, that through the 1970's the German economy was characterized by considerably faster growth in productivity than the United States, that *guest workers* were needed, that German industry was and remains highly competitive in international markets. Certainly, Germany has for a long time maintained a better record on price stability than its trading partners. And it's equally hard to be oblivious to the fact that the rising trade deficit in the United States is now undercutting our expansion and incentives to invest domestically over a wide range of manufacturing industries.

Germany has for a long time maintained a better record on price stability than its trading partners.

The current volatility of exchange rates mirrors an unsettled nature of expectations – the sense that something is out of kilter, despite all the progess made toward containing inflation here and elsewhere and toward restoring growth.

The Marriner S. Eccles Federal Reserve Building, Washington.

And certain facts seem to me to underline that uneasiness.

There is the still widening gap in our trade accounts, which has increased by some $100 billion since 1982, hardly a sustainable trend. Our interest rates are still extraordinarily high, by world standards or those of our own experience. Abroad, unemployment has been stuck at high rates, and much of the expansionary impulse has been derived from the United States, rather than *home grown*.

. . . something is out of kilter, despite all the progress made toward containing inflation here and elsewhere and toward restoring growth.

But I also believe that we all have made a lot of progress toward our mutual goals of growth and stability, and we can build on it. What needs still to be done, here and abroad, seems to me both reasonably clear and well within our economic and political capacity to implement, so long as we work together.

Out of sheer frustration, as things now stand, pressures are building in the United States for protectionist measures. . .

None will be surprised by my saying that decisive action to narrow the Federal budget deficit in the United States ranks first on the list of needed actions – and that we should achieve as much of that as possible by reining in expenditure growth. The simple fact is that we have an enormous gap between what we save internally and the demands we place on those savings. So long as we face the need to finance huge deficits, now approximating $200 billion, on top of business investment and housing needs, that disequilibrium will remain. And, one way or another, the economy will be distorted.

So far, we have been able to bridge the savings-investment gap with surprising ease by drawing on savings from abroad in unprecedented quantities, amounting to fully a quarter of our net domestic needs for investment and deficit financing. But that capital inflow, in turn, implies an equally large and rising current account deficit. Sectors of the American economy exposed to international competition – that is, much of industry, mining, and agriculture – are paying a heavy price. Surely, a process of sharply rising international indebtedness and a weakening competitive position is not sustainable indefinitely.

Right now, we have no satisfactory alternative to prolonging the capital inflow because neither the budget deficit nor the trade deficit will disappear overnight. That will require us to maintain a strong sense of confidence in our ability to maintain growth in a framework of stability. In that respect, there is a particularly heavy burden on monetary policy. Certainly it is not an environment in which we can neglect the effort to nurture greater price stability, upon which confidence depends. In such circumstances, to yield to any temptation to try to substitute money creation for a shortfall in real savings would be to aggravate the problem.

Instead, we have to close the budget gap. If that takes time, as it must, to fully implement, it *is* within our ability to take decisive action to set us on a clear path toward that goal. The

. . .protectionism. . .does not deal with the underlying imbalance between our capacity to generate internal savings and the demand we place upon those savings.

Our ability to anticipate
difficulties before they
become problems is just
one of the reasons
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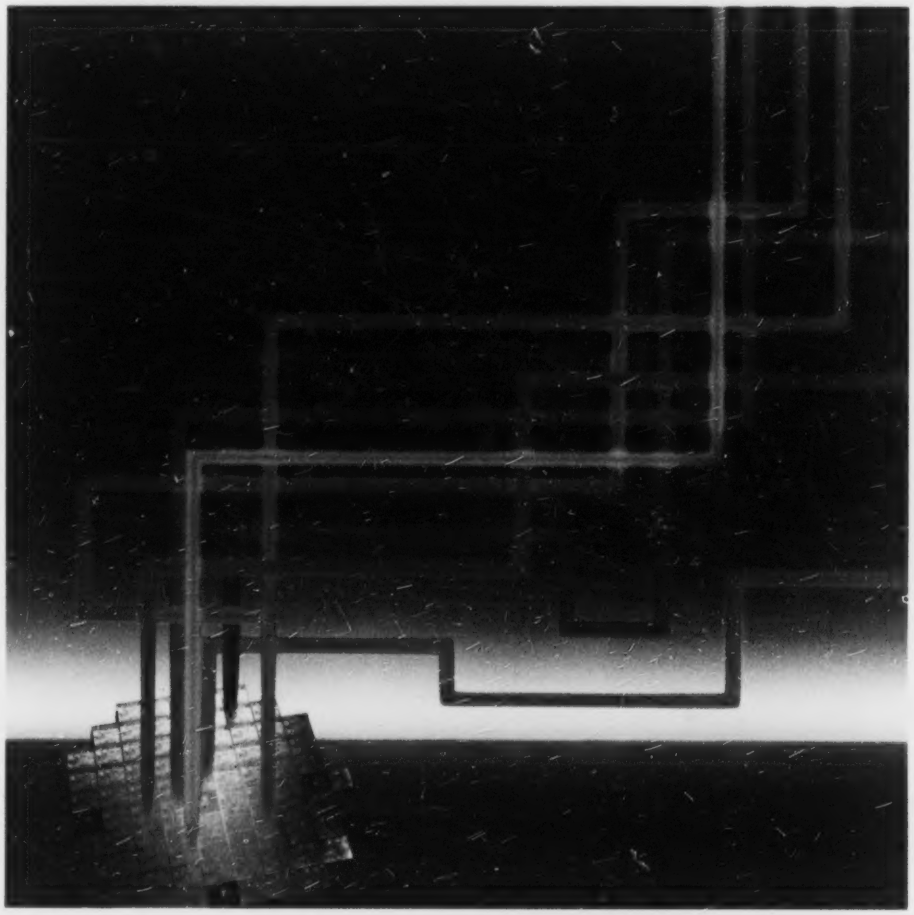

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Hon. Paul A. Volcker addressing the 150 American and German participants at the American-German Biennial Conference in Dallas in 1985.

critical time, for the economy and for the political calendar, is now.

Out of sheer frustration, as things now stand, pressures are building in the United States for protectionistic measures, even among industries and segments of the labor movement that traditionally have supported liberal trading policies. Such a response would deal with symptoms, not causes. In the end, like inflationary policies, protectionism would only complicate the problem. It does not deal with the underlying imbalance between our capacity to generate internal savings and the demand we place upon those savings.

The torch of a further liberalization through international negotiations needs to be held high; Germany has strongly supported that initiative.

So long as that basic imbalance remains, we perhaps could, in theory, shift the pressure points from one sector of the economy to another. Suppose, for instance, we somehow succeeded in reducing the trade deficit by the brute force of controls, or by depreciating the currency. Then, by definition, the net inflow of capital would also decline. Other sectors of the economy dependent, directly or indirectly, on that flow of capital would be sharply impacted – with housing potentially the most vulnerable. And it's also evident that any purely economic analysis of that kind of *trade-off* can not capture the crushing effects of the largest and strongest economy in the world leading us all into the trading equivalent of mutually assured destruction.

These protectionist pressures are rightly being resisted by the Administration and, more or less successfully so far, in the Congress. But I suspect that political resistance can be well sustained only to the extent our trading partners – especially in the industrialized world, but in developing nations as well – resist protectionist pressures within their own countries, and those in exceptionally strong trading positions – such as Japan – must find the will and the means to move toward liberalization.

Germany has, of course, been in the forefront of that effort through the years. There, it may not be so much a question of more liberalizatoin, but of taking continuing leadership in the mutual effort to encourage others to emulate its example. The torch of further liberalization through international negotiations needs to be held high; Germany has strongly supported that initiative.

Such negotiations may well be a labor of years. But, in this instance, as in so many others, a good offense – a clear sense of constructive goals and steady effort toward those goals – may be our best defense.

In other respects, there are strong positive aspects of our recent performance, and these may have implications for others.

Certainly, Germany, like other countries, does have important structural rigidities that impede new business formation and innovation, impair labor markets, and inhibit growth. Those rigidities need to be dealt with. It takes time. An outsider can offer little in the way of detailed prescriptions for another economy with its own social and political traditions. But we can and do welcome the clear recognition and emphasis on those structural problems in a country whose example and efforts are so important for the whole of Europe.

One wonders whether that necessary process can be integrated with, and indeed supported by, some changes in emphasis in more general economic policy. Germany through recent decades has achieved a remarkable record of price stability. Notably, that record has been well maintained even in the face of the sharp depreciation of the DM against the dollar, which has been reflected in rising cost for oil and some other imports. Moreover, substantial progress has been made in containing a relatively large budget deficit that arose in earlier years.

No central banker – certainly not this one – has anything but support and admiration for those efforts.

At the same time – looking ahead – there are some nagging questions.

For more than two years, growth in the United States has, directly and indirectly, provided the pricipal impetus for the world economy. The United State accounts for some 40 percent of the GNP of all OECD countries. But in 1983 and 1984, the growth of demand in the United States accounted *directly* for some 70 percent of OECD growth, and indirectly presumably for more. While our *output*, measured by the GNP, rose by more than 12% over those two years, some $140 billion of demand generated in the United States flowed abroad. That demand created exports, jobs, and GNP elsewhere than in this country. Indeed, for some countries, growth in exports to the United States has been the most important single factor providing stimulus to their economies.

For awhile, that pattern has brought benefits to both sides—growth abroad, and useful products and resistance to inflation in the United States. But huge and widening trade imbalances are not a secure foundation for sustaining growth or containing inflation either here or abroad. And the prospect now is that, after two years of extraordinary growth, the pattern of expansion in the United States may be less ebullient. Indeed, as I indicated earlier, import penetration has itself reached the point of discouraging some domestic production and investment.

Fortunately, in Germany and elsewhere in the industrialized world, a growth trend now seems to be reasonably well established. Yet, that growth, in the eyes of most observers, official and non-official, does not seem to be strong enough in Europe to reduce appreciably the historically high levels of unemployment. Moreover, unlike in 1983 and 1984, the impetus from the United States is likely to be diminishing.

Meanwhile, in Germany, as in the United Kingdom—and in stark contrast to the United States—the *structural* budget position appears to have reached balance or surplus. In other words, the recorded budget deficits now are a reflection of a period of slow growth and higher-than-normal unemployment, rather than a basically divergent trend of revenues and expenditures. Viewed from this distance, one wonders whether, in all the circumstances, the past efforts have not now won for the authorities a degree of fiscal flexibility that could be usefully employed, for instance, in improving incentives and otherwise promoting economic efficiency and structural adjustment. I know that some planning for tax reduction has been on the German agenda.

Should the DM stabilize—or its appreciation relative to the dollar of recent days persist—one source of upward cost-price pressures in Germany would end. A natural consequence could be that the monetary authorities, too, might find themselves with more maneuvering room, to be usefully employed if needed to encourage growth, without jeopardizing prospects for stability.

I realize all of that would be much easier in an environment in which the United States is not itself drawing so heavily on world savings, an environment in which we could enhance the possibilities of sustaining lower interest rates consistent with further progress toward price stability. That is, of course, why action on our budget deficit is so crucial to the whole effort.

But huge and widening trade imbalances are not a secure foundation for sustaining growth or containing inflation either here or abroad.

I need hardly belabor the fact that success in the United States, in Europe, and in Japan in providing growing and open markets will also be critical to the efforts of much of the developing world to struggle out from under its heavy burden of debt. After more than two years of successfully coping with the immediate debt crisis, some lessons seem clear in that respect.

Hon. Paul A. Volcker, Chairman of the Federal Resreve System; Trammell Crow, designer and owner of the Dallas Trade Mart; and Juergen Warnke, Federal Minister for Economic Cooperation.

The major borrowing countries do have the potential for balancing their external accounts—or at the very least sharply reducing the need for new bank lending—and at the same time restoring growth. Mexico, Brazil, and Venezuela have gone a long way in that direction already, showing the way to others. Success over time will, in my judgment, require not only self discipline but also steps to liberalize their own economies. They must be made more flexible, efficient, and competitive and more attractive for private investment, whether by their own citizens or from abroad.

The major borrowing countries do have the potential for balancing their external accounts. . .and at the same time restoring growth.

It's not easy for any of us to break out of past patterns. Constructive new measures in developing countries will be introduced and *sustained* only as their leaders can offer people realistic hopes that the efforts will pay off. And that *pay off*, in the end, will be dependent on our efforts in the industrialized world as well as theirs—our success in sustaining our own growth, in maintaining open markets, and achieving

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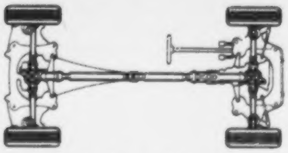

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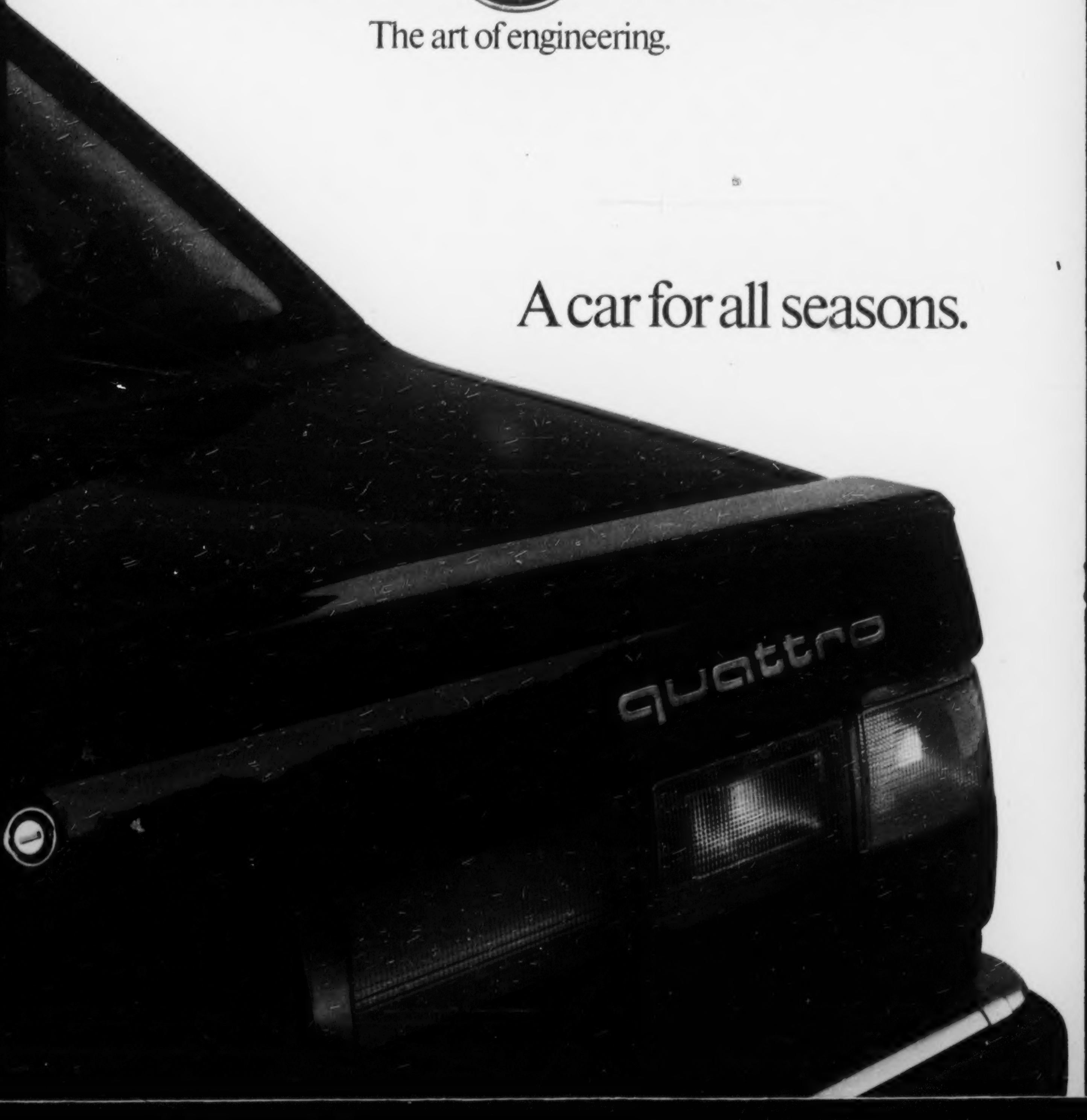

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Arend Oetker of Schwartauer Werke GmbH & Company, Hamburg; Ambassador Arthur Burns, and Federal Economics Minister Martin Bangemann.

reasonable interest rates. No IMF programs, and no series of bank financings or refinancings, important and imaginative as they can be, can substitute for those fundamentals.

Nor can we really expect the volatility in exchange markets – with all its connotations of uncertainty and unsettlement – to subside in any lasting way without addressing the elements in our policies that give rise to economic imbalances. As I emphasized at the start, the cornerstone of that effort lies in the progress toward price stability among the leading countries. In that respect, the omens are better than for many years. But taken alone, that progress may not be enough to assure a stable international system.

Indeed, our experience with floating exchange rates over the past 15 years has not, to my mind, been totally reassuring – certainly not when measured against the expectations of many. The floating system has, of course, been justified on the strongest of all grounds – that, after all, in its way, it has worked, when no other arrangement seemed practically feasible. But the amount of volatility has been large, and so far has not decreased.

If we can achieve better balance in our growth, and sustain that growth in a context of greater price stability, then we should also have the basic "environmental" conditions for exchange rate stability. If spontaneous market forces then do not develop a more stable exchange rate system, I believe we have a further challenge for our cooperation efforts – the challenge to think hard about ways that governments and central banks can better encourage that result.

Inevitably, relationships among the dollar and the mark (in its role as a national currency and as a central part of the ECU) are pivotal to any wider stability. And certainly, the exchange rate today is too important an economic variable to ignore in our policy making. It is simply another aspect of the interdependent nature of our economic relationship, the health of which is of significance to far more than our two countries.

Indeed, our experience with floating exchange rates over the past 15 years has not, to my mind, been totally reassuring . . .

That needed economic cooperation can flourish only in the larger context of sympathetic understanding reaching to all levels of society in our two great democracies.

In both countries there are competing and compelling demands for attention elsewhere, internally and abroad. To a degree, that's natural and inevitable. The unique atmosphere of intensity and urgency that underlay the broader constructive effort to rebuild our political ties and a shattered economy is no longer present. But the need to maintain the strong ties of communication and understanding remain. ■

DEUTSCHE ZUSAMMENFASSUNG

Zwischen der Bundesrepublik Deutschland und den Vereinigten Staaten existieren langbewaehrte Beziehungen. Die "gemeinsame Sache" zwischen den beiden Staaten beruht auf der Demokratie, den gemeinsamen Sicherheitsinteressen sowie der Anerkennung der Marktwirtschaft und des freien Welthandels.

Nach dem wirtschaftlichen Wiederaufbau nimmt die Bundesrepublik eine Schluesselrolle innerhalb der Europaeischen Gemeinschaft ein. Zwischen beiden Staaten herrscht Uebereinstimmung ueber die marktwirtschaftliche Orientierung, und man bemueht sich gemeinschaftlich um die Erhaltung der Wirtschafts- und Preisstabilitaet. Es bestehen auch gute Beziehungen auf persoenlicher Ebene. Zwischen den Zentralbanken und den Finanzministerien der beiden Staaten finden laufend Konsultationen statt.

In den Vereinigten Staaten war nach einer tiefen Rezession ein lebhafter Wirtschaftsaufschwung, der noch nicht gebrochen ist, zu verzeichnen. Innerhalb von zwei Jahren wurden 7½ Millionen Arbeitsplaetze geschaffen und die Arbeitslosenquote sank um 2½ Prozentpunkte. In der Bundesrepublik hingegen erweist sich die Schaffung von neuen Arbeitsplaetzen trotz des Wirtschaftsaufschwungs als schwierig, und dieses Phaenomen ist auch fuer andere europaeische Staaten typisch.

Dieser Leistungsunterschied liegt auch in der Psychologie begruendet, und diese beeinflusst wiederum den Erwartungshorizont. Euro-Pessimismus auf der einen Seite und ein wiedererwachter Optimismus in Amerika stehen sich gegenueber. Dieser vorherrschenden Einschaetzung entspricht der aussergewoehnliche Hoehenflug des US-Dollar waehrend der letzten zwei Jahre ungeachtet des bestehenden Aussenhandelsdefizits. Der sogenannte Dollar-Mangel (dollar shortage) der fuenfziger Jahre wurde durch einen Dollar-Ueberhang (dollar overhang) in den sechziger Jahren abgeloest, und in den siebziger Jahren sprach man in Deutschland von einem Verfall des Dollar. Jetzt ist von einem "Super-Dollar" die Rede, und Dollar-Guthaben gelten als die attraktivste Investition ungeachtet der Wechselkurse. Die Vereinigten Staaten sind somit schnell von einer Glaeubigernation zu einer Schuldnernation geworden.

In der Bundesrepublik gab es lange Zeit eine groessere Preisstabilitaet als in anderen Laendern zu verzeichnen. Mit gewisser Sorge beobachtet man allerdings einen gewissen Mangel der Anpassungsfaehigkeit und — verglichen mit den Vereinigten Staaten — eine groessere Starrheit des Systems, das die Schaffung neuer Arbeitsplaetze erschwert. In den USA gibt das Aussenhandelsdefizit und das Haushaltsdefizit des Bundes Anlass zur Sorge. Die Reduzierung des Haushaltsdefizits ist eine der dringendsten Aufgaben. Die Zeit dafuer ist gekommen.

Zur Zeit macht sich eine Zunahme protektionistischer Tendenzen in Amerika spuerbar. Protektionistische Massnahmen kurieren aber nur die Symptome, beseitigen aber nicht die Ursachen, die dem Ungleichgewicht zwischen unserer Faehigkeit der internen Kapitalaufbringung und dem Kapitalbedarf zugrunde liegten. Theoretisch koennte man durch die Einfuehrung von Devisenkontrollen oder einer Waehrungsabwertung Druck ausueben. Das haette aber zur Folge, dass der Kapitalzufluss gebremst wuerde. Allerdings wuerden verschiedene andere Wirtschaftssektoren, insbesondere die Bauindustrie, betroffen. Die Regierung hat sich bis jetzt den protektionistischen Tendenzen mit Erfolg widersetzt, und das gleiche gilt auch vom amerikanischen Kongress. Die Zukunft haengt massgeblich auch davon ab, ob unsere Handelspartner, insbesondere solche mit einem Handelsbilanzueberschuss wie zum Beispiel Japan, ihrerseits bereit sind, ihren Beitrag zur Erhaltung des Systems des liberalen Welthandels zu leisten. Die Bundesrepublik zaehlte in dieser Hinsicht immer zu denjenigen Staaten, die zusammen mit den Vereinigten Staaten die Fahne des Liberalismus hochgehalten haben.

Es gibt aber noch etliche Probleme trotz des anhaltenden Wirtschaftswachstums. Es waere wuenschenswert, wenn die Vereinigten Staaten nicht in so starkem Masse auslaendisches Kapital an sich ziehen wuerden und das Zinsniveau auf einem niedrigeren Stand stabilisiert werden koennte. Ein niedrigeres Zinsniveau kaeme dem Wirtschaftswachstum zugute und wuerde mit dem Ziel der Preisstabilitaet im Einklang stehen. In diesem Zusammenhang ist nochmals darauf hinzuweisen, dass die Reduzierung des Haushaltsdefizits eine absolute Notwendigkeit darstellt.

Ein weiteres Problem ist die Verschuldung von Laendern der dritten Welt. Mexiko, Brasilien und Venezuela sind von ihrem Potential her in der Lage, die Auslandsschulden zurueckzufuehren und haben schon Anstrengungen in dieser Richtung unternommen. Diese Bemuehungen werden aber nur Erfolg haben, wenn die Industrienationen weiter Wachstum vorweisen koennen, sie ihre Maerkte offen halten und das Zinsniveau angemessen bleibt.

Ein Preisstabilitaet garantierendes ausgewogenes Wirtschaftswachstum waere auch die beste Garantie fuer stabile Wechselkurse. Falls unerwartete Marktkraefte extreme Kursschwankungen zur Folge haetten, muessten im Wege der Zusammenarbeit zwischen den Regierungen und Zentralbanken andere Wege gefunden werden, um eine Wechselkursstabilitaet zu erreichen. Die gute Zusammenarbeit zwischen den Vereinigten Staaten und der Bundesrepublik Deutschland muss auch weiter gestaerkt werden.

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* **Consolidated Balance Sheet Figures / BfG:Group**

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Der floatende Dollar: Eine monetaere Notwendigkeit, aber ein Problem fuer den Handel

The Floating Dollar: a Monetary Necessity, but a Problem for Trade

by Dr. Otmar Emminger
former President
Deutsche Bundesbank

I. Why the Floating of the Dollar is Unavoidable

Let me make two things clear from the beginning:

1) When we talk about the problems of floating exchange rates we mean essentially *the floating of the dollar* against all other major currencies. The exchange rate relationships between other currencies are mainly governed by different forces – as is well demonstrated by the intra-European currency relationships.

2) As concerns relations with the dollar, there is no way around floating, at least as long as we want to have reasonable freedom of capital movements among the major countries. Let me briefly outline the reasons for this inescapable conclusion.

The chief reason is the unique position of the dollar in the international monetary system. There is no other currency in the world whose exchange rate is so strongly influenced by *capital movements* as is the dollar. These financial flows have predominated for a number of years over the so-called "traditional fundamentals", such as inflation differences or the trend of the current account balance. The influence of capital movements on the dollar value is not a new phenomenon. It already existed in the Sixties and Seventies, although in the reverse direction: then the dollar was under downward pressure because of enormous capital outflows from the United States. In the Sixties the United States had to introduce the interest equalization tax and other impediments against excessive capital outflows because at that time the United States happened to be *the* low-interest-rate country among the major countries.

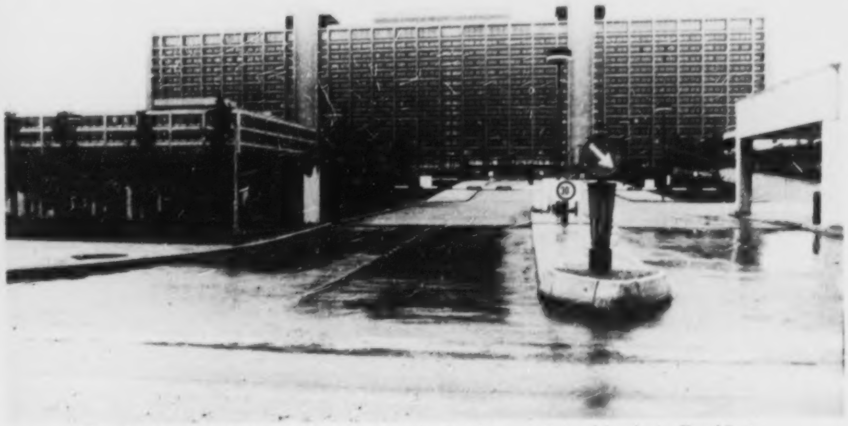
As concerns relations with the dollar, there is no way around floating . . .

When the German DMark went over to floating against the dollar in March 1973 (which was the starting point for the European *"block floating"* against the dollar), the main reason was that Germany was swamped by enormous inflows of volatile dollar funds and could regain control over its domestic money supply only by ceasing to support the dollar at a fixed rate.

Since then, the influence of capital movements on the external balance of the United States has been strengthened by the fact that over the last 15 years the volume and interdependence of the international financial markets have grown enormously. These international financial markets are dominated by the dollar, which accounts for about 70 to 75 per

. . .the dollar has other unique qualities, namely as the universal reserve and intervention currency and the most widely used transactions currency in world trade.

cent of the transactions in the Euromarkets. Besides, the dollar has other unique qualities, namely as the universal reserve and intervention currency and the most widely used transactions currency in world trade. All this puts the dollar in a class by itself. The dollar is the only currency for which it can be said with certainty that *under conditions of capital mobility it can function only as a fully floating currency*. Any fixed dollar rate would sooner or later be toppled by irresistible capital flows and the enormous amount of volatile dollar holdings. This is also true of a mere *target zone* for the dollar (which has been advocated by the French and others) – except if the target zone were defined with very wide margins and the zone itself were easily movable, which would, of course, make the whole exercise meaningless. One should also not forget that it is not the Americans who would have to decide whether to float or not; it would be for the other major countries to make that decision, since it would fall mainly upon them to defend a more rigid system through foreign exchange interventions. I don't see any of the other major currencies – the yen, the DMark, the pound sterling – being ready to assume the burden of defending a target zone in relation to the dollar, which would also mean tying their interest rates more closely to the American ones.



Main building of the Deutsche Bundesbank, the German federal bank, in Frankfurt.

II. More Exchange Rate Stability in Europe

Nothing can demonstrate the unique position of the dollar in the matter of floating better than a look at the European Monetary System (EMS) and its predecessor from 1972 to 1979, the European *"Snake-arrangement"*. In contrast to the position of the dollar, mutual exchange rate relationships inside Europe have been mostly influenced by inflation differences and the trends of the payments balance on current accounts. There have, of course, also been intra-European capital flows, and occasionally disturbing speculative capital movements. But up to now they have been of manageable proportions. The contrast to the dollar is best demonstrated by the fact that inside the *"Snake"* and the EMS the occasional exchange rate adjustments have *always* been made so as *to offset inflation differentials and untenable current account trends*. Therefore, the deviations of intra-European exchange rates from purchasing power parities (including cost parities) have never reached a size comparable to the deviations of dollar exchange rates from such parities. In the case of the DMark, the deviations from purchasing power or cost parities against the average of the other EMS currencies have at most gone up temporarily to 8 per cent and have always been corrected again. Compare this to the relationship between the DMark and the dollar: between 1980 and the second quarter of 1985 the dollar has appreciated against the DMark by more than 60 per cent over the level justified by changes in relative purchasing power. This is not volatility, but a very large and persistent distortion or *"misalignment"*. Inside Europe, an adjustable peg system, a sort of "mini-Bretton Woods", has functioned quite well, while it could never function again in relation to the dollar.

. . .it is not the Americans who would have to decide whether to float or not. . .

I have always considered it a big mistake that economists and government officials, in reviewing our exchange rate system, usually do not differentiate sufficiently between relations with the dollar on the one hand, and the relations among other currencies, on the other hand. This is true also of the recent Report of the Group of Ten on "The Functioning of the International Monetary System" of June 1985. To give you one example: how can one make generalizing statements about the role of official intervention in the foreign exchange markets? In relation to the dollar, such intervention can only play a marginal or supplementary role. In the European Monetary System, and with a number of other currencies, it has played an important stabilizing role, and this without too much disturbance to domestic monetary policies.

III. The Problem is Not Volatility, but Misalignment of the Dollar

To say that floating against the dollar is un-

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avoidable for the forseeable future looks like bad news for international trade. For floating has serious drawbacks. One of them is *volatility*. Floating exchange rates have turned out to be very volatile in the short run, and they have an inherent tendency toward overshooting – much more so than had been anticipated when we went over to widespread floating in the spring of 1973. This volatility is to some extent the price we have to pay for greater flexibility in our exchange rate system, a flexibility which is indispensable in relation to the dollar in order to cope with massive capital movements and international shocks.

However, monetary authorities could – and should – do more to smooth out some of these very erratic short-term swings. This could be done by intervening in a coordinated way whenever the exchange markets are in a disorderly condition or are grossly overshooting. We saw a successful case of such coordinated intervention when at the end of February 1985 the dollar reached an extraordinary peak at DMark 3.47. This was such an aberration that it was an easy target for a fully justified, massive intervention by a group of central banks, with a total amount of over $10 billion; the Deutsche Bundesbank contributed the major share (nearly $4 billion), while the American contribution was only about $600 million. This coordinated intervention has not only turned the overvalued dollar around, but has also proved to be highly profitable (at least for the Bundesbank). Another way of reducing the short-term volatility of floating rates is to conduct less hectic interest rate policies. We have seen how the hectic interest rate swings in the United States from 1980 to 1982/83 greatly increased the volatility ratios of exchange rates against the dollar (while inside the EMS the volatility ratios declined). However, if the problem were only this short-run volatility, its impact on international trade would be manageable, although with some increase in costs for hedging, etc.

. . .at the end of February 1985 the dollar reached an extraordinary peak at DMark 3.47. . . .an easy target for a fully justified, massive intervention by a group of central banks. . .

Inside Europe, an adjustable peg system, a sort of "mini-Bretton Woods", has functioned quite well. . .

An incomparably greater problem is the fact that under the regime of floating, the most important exchange rate, namely that of the U.S. dollar in relation to the other main currencies, *has for a long time been "misaligned"*, i.e. far out of line with relative cost and price relationships and with sustainable current account po-

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sitions: this has been the case not only for months or quarters of a year but over a number of years (although with large short-term swings). The size of the misalignment can be estimated in a number of different ways. But no one can doubt that since 1981 the dollar has appreciated considerably more than can be justified by relative price or cost movements, however calculated. And the same is true if we look at the evolution of the trade and current account deficit of the United States: the latter increased from $9 billion in 1982 to the huge amount of $102 billion in 1984, and seems to be set for a further increase in 1985. This "misalignment" has already lasted about four years. Despite the turnaround of the dollar since February 1985, the misalignment still persists to some extent at the time of writing these remarks (October 1985).

This misalignment of the dollar has given rise to serious problems:

– it has distorted the competitive position of the United States and has provoked a stampede of protectionist pressures.

– it is a drag on economic activity in the United States, particularly on manufacturing, mining and farming.

– It has provided incorrect signals for investment both in the United States and abroad, thus leading to a misallocation of resources.

– The huge deficit on trade and current account – which is to a considerable extent due to the overly high dollar[1] – has made the United States "addicted to capital imports" (to use Paul Volcker's phrase). This has made it dependent on unreliable decisions by foreigners to a greater extent than ever before. This is a high-risk situation.

– Finally, an indefinite continuation of such external deficits would lead to a huge increase in external debt, which not even a country of the size and economic power of the United States could easily bear. The argument that this external debt does not matter greatly, because it is all denominated in dollars, sounds rather naive. The rapidly increasing debt service to foreigners will in the future weigh heavily on the dollar market. Together with the continuing trade deficit, it will sooner or later be more than the dollar market can bear. Thus, the present constellation will be unsustainable in the long run.

From this list of problems, two are of particular relevance for the trading community: on the one side the threat of very *harmful protectionist measures by the United States*, on the other side the *great uncertainty* about the timing and strength of the probably further downward adjustment of the dollar. International trade needs a predictable and reliable environment.

No doubt the high dollar has also had beneficial effects on the U.S. economy: it helped to prevent an overheating of the U.S. economy in 1983/84, has held the American inflation rate down, and has kept interest rates lower than they otherwise would have been. It has also exerted pressures on American industry to rationalize production. But the longer the misalignment has lasted, the more the balance has shifted to disadvantages for the American economy.

Other countries, especially several industrial countries, have profited from the high dollar because it makes them very competitive against American goods in the U.S. market and abroad. This positive influence has finally outweighed the initial unfavorable impact of the high dollar on their import prices and their monetary policies. One could go a step further: The high dollar, together with the large expansion of American demand in 1983 and 1984, have been the major forces fueling the American "locomotive", which has pulled the world economy out of stagnation. But this positive effect on the world economy is being overshadowed more and more by the risk of harmful protectionist reactions in the United States as well as by the great uncertainty surrounding the dollar's future exchange rate.

IV. The High Dollar – an Acute Problem for America

One thing has become clear: the exchange rate of the dollar, and the huge external deficit which is in part due to the high dollar, have now become acute problems for the American economy as well. About a dozen years ago a Secretary of the Treasury said to the Europeans: "The dollar is our currency, but your problem" – a concise way of describing the American policy of "benign neglect". But now the dollar problem has returned home to the United States, particularly if we look ahead to the sombre eventualities of the future.

But now the dollar problem has returned home to the United States . . .

This was officially acknowledged at the meeting of the Group of Five in New York on September 22, 1985. The outcome of this meeting – which was confirmed at the Annual Meeting of the IMF in Seoul in October – represents *a fundamental turnaround in the American attitude toward the exchange rate of the dollar:*

1. It is now officially acknowledged by the

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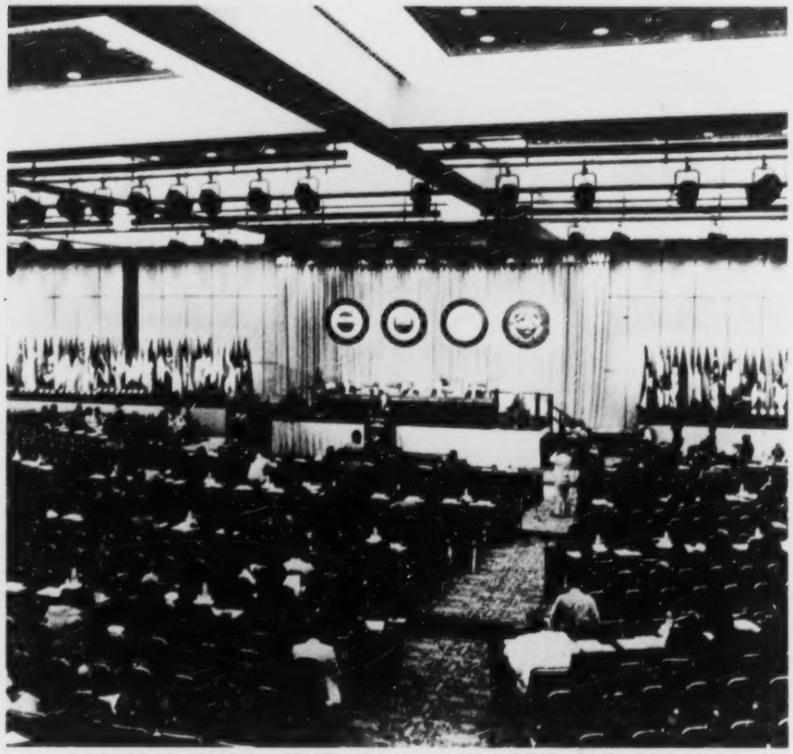
[1] According to an estimate of the Federal Reserve, about one half of the deterioration of the current payments balance since 1982 has been due to the overly high dollar.



International Monetary Fund, 1985 Annual Meeting, Seoul, Korea.

It is now officially acknowledged by the American Administration that the high dollar is distorted . . .

American Administration that the high dollar is distorted ("does not fully reflect the fundamental economic conditions"), and that this may be harmful because of its contribution to the excessive American trade deficit and to protectionist pressures. Therefore, a further orderly adjustment in exchange rates "is desirable". This is a far cry from the time when the high dollar was praised by many (including President Reagan) as proof of America's economic virility. It is also the opposite of "benign neglect".

2. It has also been acknowledged that the high American budget deficit has been one of the causes of the external imbalance. This has, of course, been very forcefully maintained all the time by many critics both in the United States and abroad, foremost among them Paul Volcker. But now it has, for the first time, been officially acknowledged by the U.S. Treasury.
3. There has also been a fundamental turnaround in the official American – and international – attitude toward intervention in foreign exchange markets. Since early 1981, the American Administration had firmly maintained the position that such intervention would, at most, be appropriate to smooth out "disorderly market conditions". Now the members of the Group of Five stand ready to cooperate toward the goal of attaining more normal exchange rate relations. And this cooperation also encompasses the use of intervention, as was officially explained afterwards. That is, of course, very different from using intervention only for smoothing out "disorderly market conditions".

Intervention of the magnitude of September and October 1985 cannot be continued indefinitely.

4. In order to achieve a lasting improvement in exchange rate relations, the Ministers and Central Bank Governors of the Group of Five agreed that "the fundamentals" should be "improved further by agreed policy actions" (which were in part outlined in the Communique).

V. What are the Prospects for More Normal Exchange Rate Relations?

The understanding among the members of the Group of Five was hailed by some as a "revolution in international monetary policies". Others saw in it just "words, nothing but words". What are the real prospects for success?

The first action following the Group of Five meeting has been a coordinated effort among major countries to push down the dollar by *massive intervention in the exchange markets.* This has initially been successful. Between September 20 and October 21, 1985, the dollar has gone down in relation to the DMark by 9 percent, in relation to the Yen by 11 percent.

Let us be clear about one thing: this cannot yet be counted as a lasting success toward a "more normal level of exchange rates". Intervention of the magnitude of September and October 1985 cannot be continued indefinitely. This downward pressure on the dollar exchange rate may, however, have a useful side effect, namely by making foreign investors in dollar assets more aware of the exchange rate risk involved in their investments. *But a really lasting adjustment cannot be expected through intervention alone, but instead only if the "fundamentals" are changed.*

This means primarily a significant *reduction in the American budget deficit* on the one hand, and a *more expansionary policy by the main surplus countries* on the other hand. The American Administration has undertaken a new effort to persuade the U.S. Congress to cut down the budget deficit a little more. At the time of writing (October 1985), the outcome cannot yet be reliably assessed.

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What about the other side? In *West Germany*, interest rates have already fallen considerably, and a tax cut (although of modest proportions) has been decided upon for 1986. But it will probably take some time before a sufficient response in terms of higher real growth will emerge. The German finance minister, Herr Stoltenberg, has made it clear that the understanding among the Group of Five does not imply a change in German fiscal policy. What other stimulating measures are available? As concerns monetary policy, there is now a new external constraint on reductions in German interest rates. It seems to be implicit in the G 5 understanding that German (and Japanese) interest rates should not be lowered if an increased interest rate differential against dollar interest rates would push up the dollar again. Thus, a further interest rate reduction in the surplus countries may have to wait until American interest rates decline; and this is probably dependent on how the reduction in the American budget deficit proceeds. But there may be a corresponding restraint, at least in the short run, on American interest rate policy, namely not to increase American interest rates significantly if this could push the dollar up.

Thus the call for action goes first of all to the American side. After all, it is the American deficits which are at the root of the present international imbalances.

In my view, there is a more general lesson implied here. Significant stimulatory measures in other major countries in order "to take up the slack", may be forthcoming only after there is definite proof of significant Congressional action in the U.S. Then, and only then, may the other relevant countries feel, induced – and able – to compensate for the decline in American demand pressures by increased stimulation of their own domestic demand. Thus the call for action goes first of all to the American side. After all, it is the American deficits which are at the root of the present international imbalances. Thus the buck will probaby stop at the American side. But the problems in the world, particularly the international debt problems and the European employment problems, are so serious, that a simultaneous approach to these problems by both sides seems to be eminently desirable.

The main test of the new coordinated dollar policy among the major countries will be the future development of the dollar/yen rate. This will have an important influence on restoring reasonable competitive conditions between the United States and Japan, and may be the crucial factor in the decisions on protectionism by the U.S. Congress. The huge Japanese capital exports (mostly into dollar assets) are the chief destabilizing factor. They are certainly determined to a large extent by the considerable interest rate differentials. These again are, at least in part, due to the fundamental difference in budgetary policies between the United States and Japan (similar to the difference between the U.S. and West Germany). But there is more behind it, namely deep seated structural differences in the net savings ratios in the respective private sectors. The most striking examples are the United States with its low, and Japan with its very high savings ratio. And finally, there are also fundamental differences in the various tax systems. The United States, with general tax deductibility of interest costs and generous tax benefits for a lot of investment, has inevitably become a structural high-interest-rate country. The large budget deficit in the United States has only aggravated these other structural imbalances. Probably one should ask not only the United States to reduce the capital gap, which has been increased by the high budget deficit, but also ask Japan to do something about its unprecedented capital surplus, e.g. by attracting a larger part of it into domestic uses.

In looking at these various sources of external imbalances, one thing comes out very clearly: the harmful medium-term misalignment of important currencies is *not an inevitable consequence of floating, but the consequence of underlying structural imbalances and destabilizing policies.*

VI. Soft or Hard Landing for the Dollar?

An *orderly* adjustment of the dollar exchange rate has now become an official goal of the United States and other major countries. But what is an *orderly* adjustment or as it has often been called – a *soft landing*?

A *soft landing* is, in my opinion, not a gradual depreciation of the dollar by 4 to 5 percent per year (as some American economists have defined a *soft landing*, but a more substantial one, say by 15 to 20 percent, and stabilization at that lower level. What that lower, and more normal, level should be has not been spelled out by the Group of Five, and according to official statements, no concrete level, or range, has been set. The German central bank governor is reported to have said, that Germany could

The United States, with general tax deductibility of interest costs and generous tax benefits for a lot of investment, has inevitably become a structural high-interest-rate country.

There is a greater risk that the dollar may get out of control and someday fall more than is compatible with an orderly adjustment.

well live with a dollar rate around DM 2.60 to 2.65. The Japanese central bank has mentioned an exchange rate of around 200 Yen for the dollar as being desirable. This must not be taken as a sort of *goal*, because no one will be able to steer the dollar rate to any precise goal.

Behind the present efforts at an "orderly adjustment" there always lurks the danger of the dollar getting out of control again. The risk is less that the dollar will become overly strong again. We hear occasionally the strange argument that the dollar will have to remain strong because the United States needs a high inflow of foreign funds. But in reality it is not the high dollar which attracts foreign funds, but the confidence that the future value of the dollar will not drop so much below the present one that the expected profits from interest differentials, etc., may be eaten up. It may well be that the dollar will have to be considerably lower to give the foreign investors this confidence.

There is a greater risk that the dollar may get out of control and someday fall more than is compatible with an orderly adjustment. This is what we have heard from the "dollar pessimists" for a long time. They tell us that the American trade deficit is so high, and the additional deficits due to the increase in the external debt will add so much more, that a return of the dollar to an "equilibrium rate" will require a steep fall – and that the usual tendency towards a speculative overshooting will add to that drop.

One cannot entirely rule out such a pessimistic scenario for the dollar. Unforeseeable political events could unleash all sorts of forces. But this risk should give an added impetus to all those efforts which aim at adjusting the existing enormous payments imbalances as soon as possible, and in an orderly, internationally coordinated way. Hopefully, the understandings among the Group of Five are a step in this direction. And, hopefully, they have not come too late.

Looking at the deepseated differences in fiscal policies, and at the various structural factors involved here, gives the definite impression that it will not be easy to get back into a more balanced international trade and payments situation. This is an enormous challenge to economic and financial policies on all sides. But challenges are there to be taken up and resolved. ■

DEUTSCHE ZUSAMMENFASSUNG

1. Flexible Wechselkurse sind in der heutigen Waehrungslandschaft unentbehrlich. Aber dies gilt nur fuer die Wechselkursrelationen zum Dollar. Das Europaeische Waehrungssystem (EWS) hat gezeigt, dass es durchaus moeglich ist, zwischen anderen Waehrungen ein regionales System von festen, aber anpassungsfaehigen Wechselkursen aufrechtzuerhalten.

2. Der Hauptgrund fuer die Sonderstellung des Dollars liegt darin, dass der Dollar wie keine andere Waehrung unter dem Einfluss von Kapitalbewegungen steht. Dies zeigte sich z.B. beim Uebergang zum Floaten im Jahre 1973. Damals wurden Westdeutschland und einige andere Staaten so von Dollarzufluessen ueberschwemmt, dass sie die Herrschaft ueber ihre eigene Geldversorgung nur wiedergewinnen konnten, indem sie die Dollarstuetzung zu festen Kursen aufgaben. Der Dollar ist die einzige Waehrung, von der man mit Bestimmtheit sagen kann, dass sie — wenigstens solange wir weitgehende Freiheit der Kapitalbewegungen haben — nur als frei floatende Waehrung funktionieren kann.

3. Im Gegensatz zum Dollar stehen die Zahlungsbeziehungen innerhalb Europas ueberwiegend unter dem Einfluss von Inflationsdifferenzen und Leistungsbilanzentwicklungen, also der "traditionellen" Fundamentalfaktoren. Daher laesst sich innerhalb einer solchen regionalen Gruppe ein Bretton Woods-aehnliches System von festen, aber anpassungsfaehigen Wechselkursen aufrecht erhalten. Offizielle Interventionen am Devisenmarkt koennen innerhalb eines solchen regionalen Systems durchaus eine stabilisierende Rolle spielen, waehrend sie gegenueber dem Dollar, wenigstens auf die Dauer, nur eine sekundaere und marginale Rolle spielen koennen.

4. Die Unstabilitaet der Wechselkurse ist der Preis, den man fuer ein flexibleres System gegenueber dem Dollar zahlen muss. Bei der Unstabilitaet des frei schwankenden Dollarkurses muss man jedoch unterscheiden zwischen einerseits den kurzfristigen Schwankungen, andererseits den laengerfristigen Niveauverschiebungen ("misalignments"). Die kurzfristigen Schwankungen sind fuer den Aussenhandel zwar unangenehm, koennen aber durch Termingeschaefte u.ae. abgedeckt werden, wenn auch mit einigen zusaetzlichen Kosten.

5. Ungleich groessere Probleme wurden dadurch aufgeworfen, dass der Dollar in den letzten Jahren weit ueber das Niveau gestiegen ist, das durch normale oekonomische Grunddaten, wie Kaufkraftparitaeten oder Entwicklung der amerikanischen Leistungsbilanz, erklaerbar waere. Die Hauptprobleme sind: Verzerrung der Wettbewerbspositionen, irrefuehrende Signale fuer Investitionen, eine riskante Abhaengigkeit der USA von unsicheren Kapitalzufluessen zur Deckung des Leistungsbilanzdefizits, Akkumulation einer hohen Auslandsverschuldung. Fuer den Welthandel sind die groessten Probleme die Gefahr von protektionistischen amerikanischen Massnahmen sowie die Unsicherheit ueber den kuenftigen Dollarkurs.

6. Zwar hat der hohe Dollarkurs in frueheren Jahren auch Vorteile fuer die Vereinigten Staaten gebracht. Aber je laenger die Wechselkursverzerrungen andauerten, umso mehr haben die Nachteile das Uebergewicht gewonnen. Umgekehrt haben bei den anderen Industrielaendern mit der Zeit die Vorteile aus dem hohen Dollarkurs das Uebergewicht erlangt ueber die anfaenglichen Nachteile. So ist heute der ueberhoehte Dollarkurs viel mehr ein amerikanisches Problem geworden. Die Vereinigten Staaten koennen ihre fruehere "wohlwollende Vernachlaessigung" (benign neglect) der Aussenbilanz und des Dollarkurses nicht mehr aufrecht erhalten.

7. Dies wurde von der amerikanischen

Regierung zum ersten Mal in aller Form anerkannt anlaesslich des Treffens der Fuenfer-Gruppe (G 5) in New York im September 1985. Nun wurde offiziell anerkannt, dass der ueberhoehte Dollarkurs grosse Nachteile mit sich bringen kann, darunter einen starken Druck auf protektionistische Massnahmen. Ebenso wurde anerkannt, dass das hohe amerikanische Budgetdefizit eine der Ursachen fuer das stoerende aussenwirtschaftliche Ungleichgewicht der Vereinigten Staaten ist.

8. Eine wohlgeordnete Rueckfuehrung des Dollarkurses auf ein normaleres Niveau ist nun zum offiziellen Ziel der USA und der uebrigen Partnerlaender erklaert worden, ohne dass freilich ein bestimmtes "Gleichgewichtsniveau" ins Auge gefasst wurde. Zum Zweck dieser Wechselkurskorrektur sollen einerseits die "fundamentalen Faktoren" verbessert werden. Andererseits wurde auch eine entscheidende Wendung in der Beurteilung der Deviseninterventionen vollzogen. Solche Interventionen sollen in Zukunft nicht nur zur Ueberwindung von kurzfristigen Marktstoerungen angewandt werden, sondern auch als untersuetzende Massnahme zur Herbeifuehrung eines normaleren Dollarkurses.

9. Die international koordinierte Intervention einer Reihe von Notenbanken seit dem 23.September 1985 hat zwar kurzfristig durchaus Erfolge gebracht. Der Dollarkurs ist seit dem 23.September 1985 betraechtlich gesunken. Dies kann jedoch noch nicht als dauerhafter Erfolg angesehen werden. Denn solche massiven Devisenintervention der Notenbanken koennen nicht permanent fortgefuehrt werden.

10. Fuer eine Dauerloesung kommt es vielmehr auf eine Verbesserung der "fundamentalen Faktoren" an. Das bedeutet in erster Linie eine ins Gewicht fallende Rueckfuehrung des amerikanischen Budgetdefizits, sowie auf der anderen Seite eine Konjunkturstimulierung durch die Hauptueberschusslaender, wie Japan und Westdeutschland. Die Schluesselrolle liegt dabei beim japanischen Yen. Fuer das extreme Ungleichgewicht zwischen den USA und Japan waren nicht nur die gegensaetzliche Fiskalpolitik und die daraus folgenden Zinsunterschiede massgebend, sondern auch sehr tiefgreifende Strukturunterschiede, vor allem der Gegensatz zwischen der zu geringen Sparquote in den USA und der ungewoehnlich ueberhoehten Sparquote in Japan.

11. Ob wir mit dauerhaften Erfolgen bei den notwendigen "fundamentalen Anpassungen" in den USA und den Ueberschusslaendern rechnen koennen, ist bei Abschluss dieses Berichts noch unsicher. Eines zeichnet sich aber schon ab: Wahrscheinlich werden die Ueberschusslaender erst dann willens und in der Lage sein, effektive Massnahmen zu ergreifen, um als "Ersatz-Lokomotiven" zu wirken, wenn auf der anderen Seite sicher ist, dass der amerikanische Kongress ernsthafte Anstrengungen zur Verringerung des Budgetdefizits unternimmt. Der "Schwarze Peter" bleibt also wohl auf der amerikanischen Seite und hier in erster Linie beim Kongress.

12. Nicht ganz ausgeschlossen werden kann, dass die jetzt kuenstlich eingeleitete Abwaertsbewegung des Dollars eines Tages uebergeht in den von den Dollar-Pessimisten vorausgesagten unvermeidlichen Sturzflug des Dollars.

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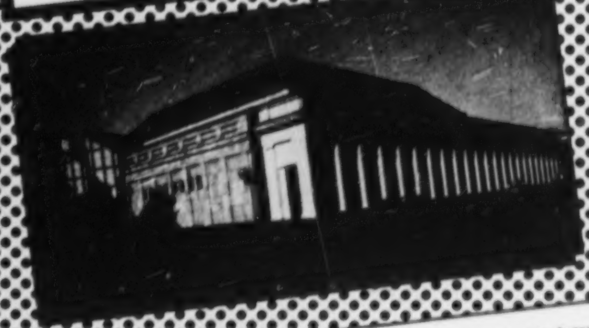

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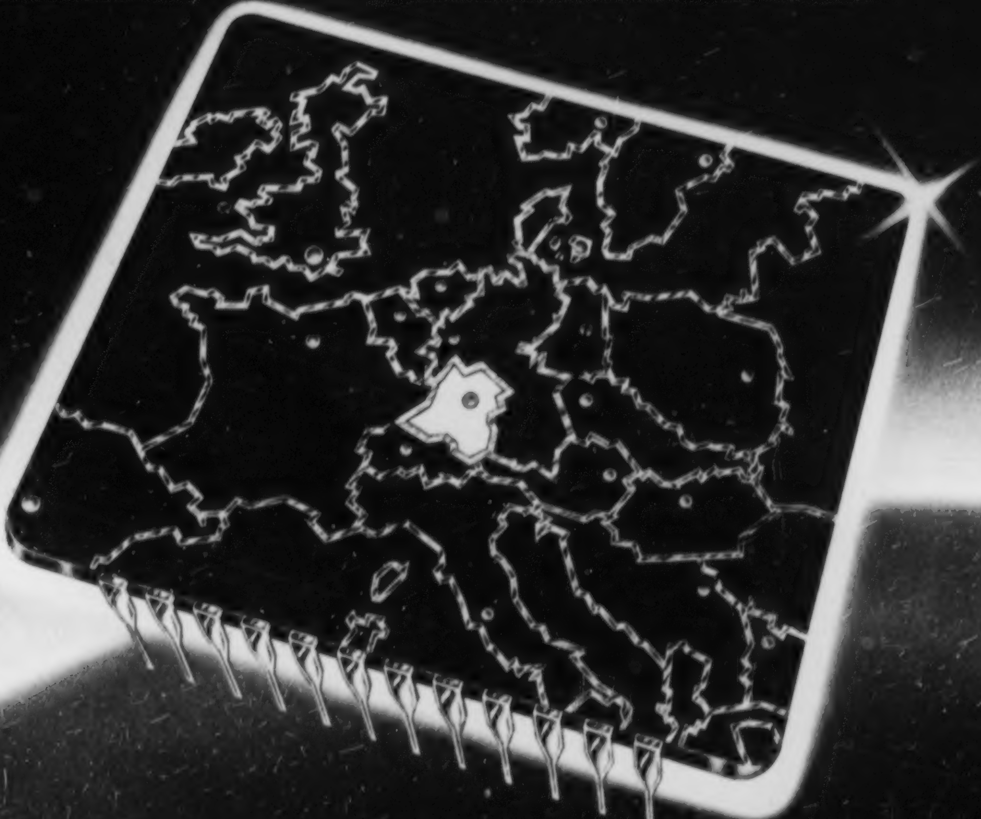

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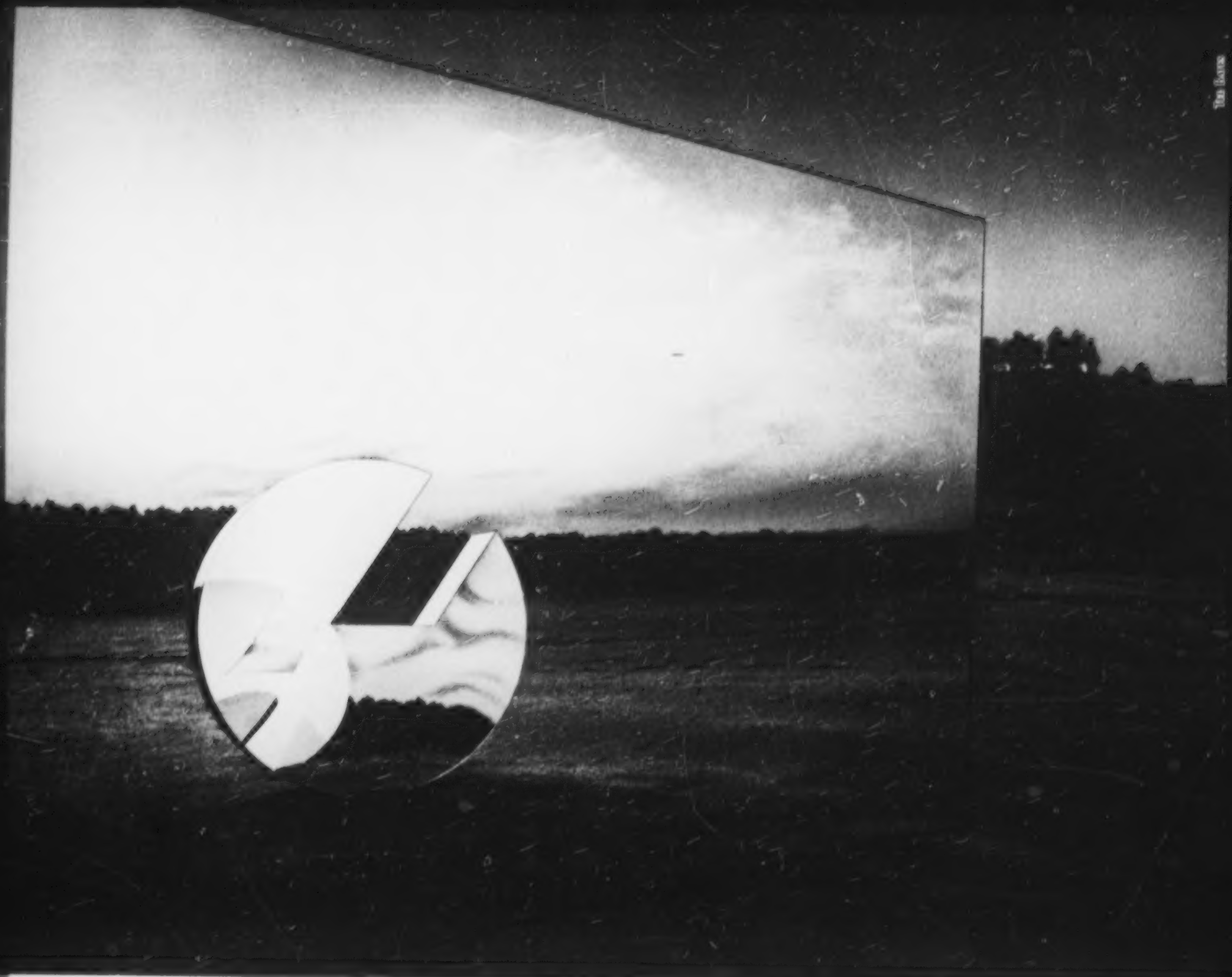

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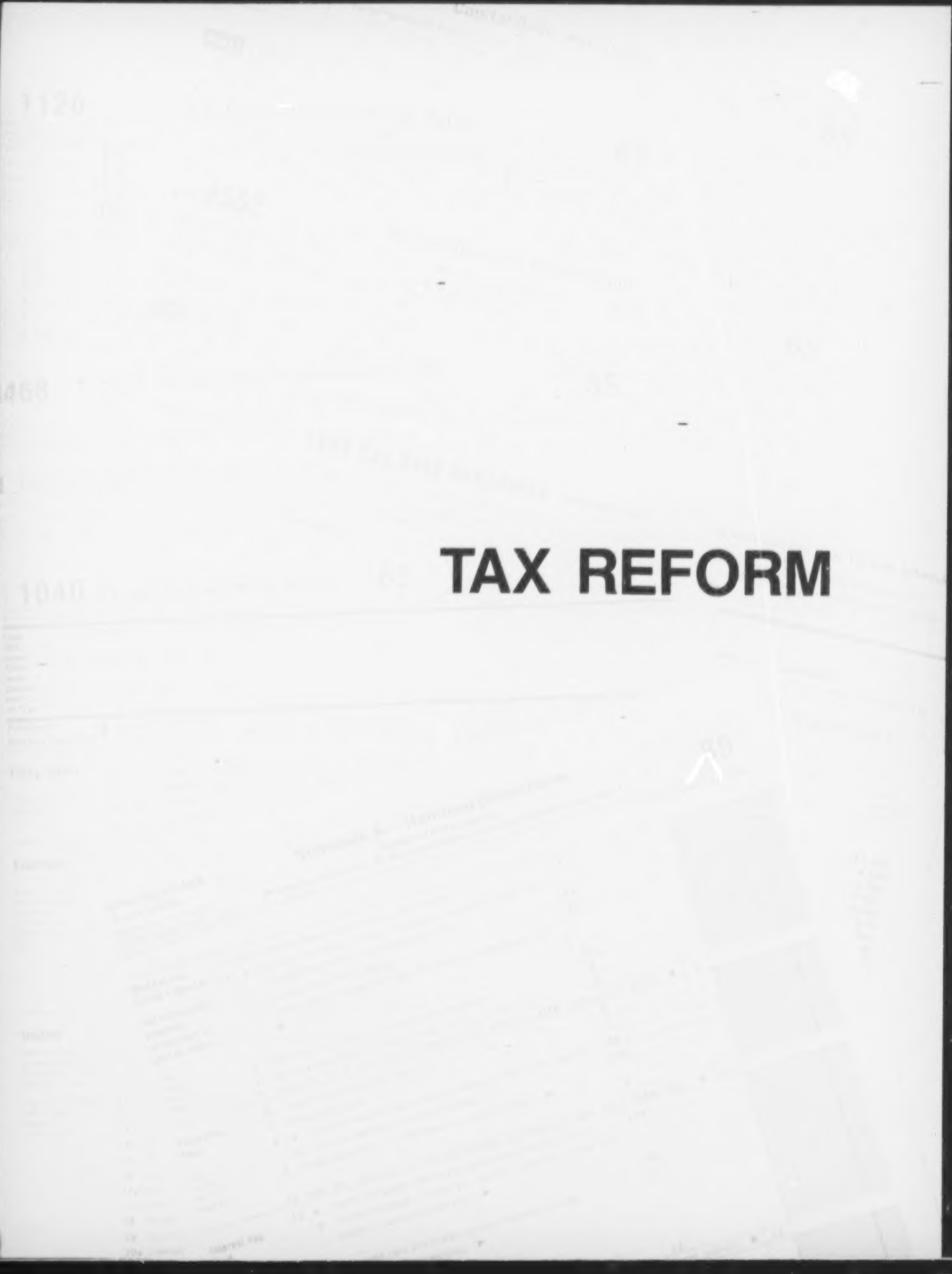

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Die US-Steuerreform: Hoffnung fuer die Entwicklung des Wirtschaftssystems

U.S. Tax Reform: Hopes for Evolution of the Economic System

by James A. Baker, III
United States
Secretary of the Treasury

The importance of tax reform can be illustrated by two familiar aphorisms: "there is nothing inevitable except death and taxes", and "the power to tax is the power to destroy."

Taxes lie at the heart of our economic and social lives. No other government power affects our nation in so many overt ways, and in so many complex and subtle ways. And no doubt, no other government power is more controversial. None inspires more scorn, envy and fear.

Because taxes have such enormous influence, they should be wisely administered. The ideal tax system is fair, simple, and economically productive. Most important, the system must have the respect of the people who pay the taxes.

Most important, the system must have the respect of the people who pay the taxes.

Unfortunately, since its inception in 1913, America's income tax system has not developed this way at all. Endless piece-meal, helter-skelter alterations and additions created a tax code that almost defied comprehension. Large chunks of the economy escaped taxation, requiring high rates on other taxpayers in order to meet the needs of the government.

This was not only unfair, but it led to the inefficient distribution of economic resources. It adversely affected decisions by businesses, investors, and other taxpayers. The high rates discouraged economic vigor.

Only the few people who spend their careers studying the code can fully understand the voluminous laws and regulations. Few others can afford to hire them for tax advice.

Most of the innumerable changes in the system, it is safe to say, did not improve it. Like all too many well-intended government "solutions," they only made the system worse – more unfair, more complex and more of an economic burden.

Most ominously, this flawed tax system threatens our national values. It is said that every time a government in the past began taxing above a certain level of people's earnings, trust in the government began to erode. The belief that others were paying less than their fair share of taxes intensified. Efforts to avoid paying the full tax would spread. This would become outright cheating, and eventually, a distrust and contempt of government itself, until there would be a breakdown in law and order.

Only the few people who spend their careers studying the code can fully understand the voluminous laws and regulations.

A recent poll reflected Americans' deep dissatisfaction with the tax system. According to

A recent poll reflected Americans' deep dissatisfaction with the tax system.

Building of the Internal Revenue Service, Washington.

the survey:

- 4 of 5 taxpayers believed the tax system benefited the rich and was unfair to the ordinary man or woman;
- a majority of taxpayers believed the federal income tax system was too complicated; and
- a majority perceived that cheating on income tax rates was rampant.

It is of paramount importance that such a flawed system be fully and permanently reformed. This must be done with care and forethought. The goals of tax reform must be clearly stated – fairness, simplicity and economic growth.

The goals of tax reform must be clearly stated – fairness, simplicity and economic growth.

These reflect the principle of liberty from which our nation was born. Our Revolution passionately opposed the excessive taxes of King George. Our Founding Fathers believed in limited government and that meant limited, restrained taxation.

The less that a tax system burdens and saturates a society, the more pure our freedom is. A government should avoid unnecessary intervention in the lives of its citizens. It should not favor one individual over another, nor one business over another.

This is the fairest way to tax people, the simplest way, and the most economically productive.

The first goal, fairness, requires eliminating special "breaks" in the system. This enables tax rates to be lowered for most people – an essential ingredient of tax reform. Only those relatively few taxpayers who now use a great deal of tax preferences would pay more tax.

Fairness means that the poor do not bear the burden of taxes. For everyone else, those who earn similar incomes should pay similar taxes. The tax base should be broader and more consistent.

The multitude of deductions, exemptions, credits, deferrals and other preferences should be reduced for individuals and businesses alike. The hordes of tax shelters that eat in to the base must be wiped out.

Fairness coincides with a second goal of tax reform – simplicity. Eliminating unfair "breaks" makes the tax system simpler. Tax forms would be easier to fill out. The "annual April anxieties" would subside.

Moreover, an understandable tax code corresponds to our vision of liberty. Information is the lifeblood of a free society. A simpler code enables a citizen to be better informed on the awesome taxing power of government.

The goals of fairness and simplicity mesh with the third goal of tax reform – economic growth.

This would be done by reducing marginal tax rates and distributing economic resources more efficiently.

High marginal tax rates harm the economy. They stifle the incentive for extra work, savings and invention. High rates put enormous pressure on taxpayers to manipulate the code and make it more unfair, more complex and inefficient. High rates are the chief reason why investors put their money into unproductive tax shelters.

It is encouraging to recall that substantial reductions in tax rates earlier in this decade helped touch off a economic boom. Cutting rates is clearly the right direction to go.

The other way to promote growth is to tax

U.S. Treasury Building, Washington.

Our Founding Fathers believed in limited government and that meant limited, restrained taxation.

sources and uses of income as equally as possible. Once again, this means trimming back preferences in the system.

Not only is this fairer and simpler, but it ensures that decisions are made for economic rather than tax reasons. The free market, not the government, is the best way to allocate resources. The market provides the timeliest data and most accurate signals for investors, consumers, savers, and businesses.

The tax system therefore should not be an implicit industrial policy. Tax preferences can be underestimated because of their relative obscurity. They may be written almost unintelligibly and buried deep in thick statute books.

But these surreptitious loopholes can be just

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In these IRS computers are listed some 96 million individuals and 3 million corporations.

. . . substantial reductions in tax rates earlier in this decade helped touch off an economic boom.

as costly as the most flagrantly mismanaged government program. Like other government subsidies, tax breaks frequently cause wasteful overproduction in targeted areas and scarcities in unsubsidized sectors.

In summary, those who consider comprehensive tax reform have two alternatives. The first is to let a flawed system continue to deteriorate, limiting growth and risking an eventual economic calamity.

The second alternative, of course, is to strive for fairness, simplicity and economic growth. If these are achieved, a basic element of our society will be strengthened. A clean, symmetrical tax system will guarantee greater freedom and prosperity for all. ■

DEUTSCHE ZUSAMMENFASSUNG

Das gegenwaertige Steuersystem laesst sich mit zwei gebraeuchlichen Aphorismen charakterisieren: "Nichts ist so unvermeidlich wie der Tod und die Steuer" und "Die Steuerbefugnis ist die Macht zu vernichten".

Das ideale Steuersystem ist gerecht, einfach und foerdert die wirtschaftliche Produktivitaet. Wichtiger noch: Das Steuerrecht muss von den Steuerpflichtigen akzeptiert werden. Seit der Verabschiedung der gegenwaertigen Steuergesetzgebung im Jahre 1913 ist die Konzeption des amerikanischen Steuersystems durch Aenderungen und Ergaenzungen, die allesamt Stueckwerk geblieben sind, verwaessert worden. Mit der Folge, dass das gegenwaertige Steuersystem voellig undurchschaubar ist und einer ungerechten Verteilung der wirtschaftlichen Werte Vorschub leistet.

Das fehlerhafte Steuersystem hat auch die vorherrschenden Wertvorstellungen und die Steuermoral untergraben und ueberdies das Vertrauen in die Steuerverwaltung und in die Regierung erschuettert. Einer juengsten Umfrage zufolge glauben vier von fuenf Steuerpflichtigen, dass das Einkommensteuerrecht nur den Reichen zugute kommt und die Mittelklasse benachteiligt. Eine Mehrheit ist ausserdem der Auffassung, das Steuersystem sei zu kompliziert und Steuerhinterziehungen seien an der Tagesordnung.

Die vordringlichste Aufgabe der Steuerreform besteht darin, das Steuersystem gerecht, ueberschaubar und leistungsfoerdernd zu machen. Das Gebot der Gerechtigkeit erfordert eine Senkung der Steuersaetze, Erleichterungen fuer die niedrigeren Einkommensgruppen und die Beseitigung der meisten Steuerverguenstigungen. Dies wuerde auch zu einer Vereinfachung des Steuersystems fuehren und sich auf das Wirtschaftswachstum foerderlich auswirken. Die Steuersenkung Anfang der achtziger Jahre hat sogar einen kraeftigen Wirtschafts-Boom eingeleitet.

Das Steuersystem darf nicht fuer ausserfiskalische Zwecke der Wirtschafts- oder Gesellschaftspolitik missbraucht werden. Steuerliche Verguenstigungen sind nichts anderes als staatliche Subventionen, die den wirtschaftlichen Wettbewerb verzerren.

Versaeumte man eine Reform des gegenwaertigen Steuersystems, riskiert man einen wirtschaftlichen Einbruch. Ein gerechtes und ueberschaubares Steuerrecht hingegen vermehrt den Wohlstand und traegt dazu bei, die Grundlagen der freiheitlichen Gesellschaft zu staerken.

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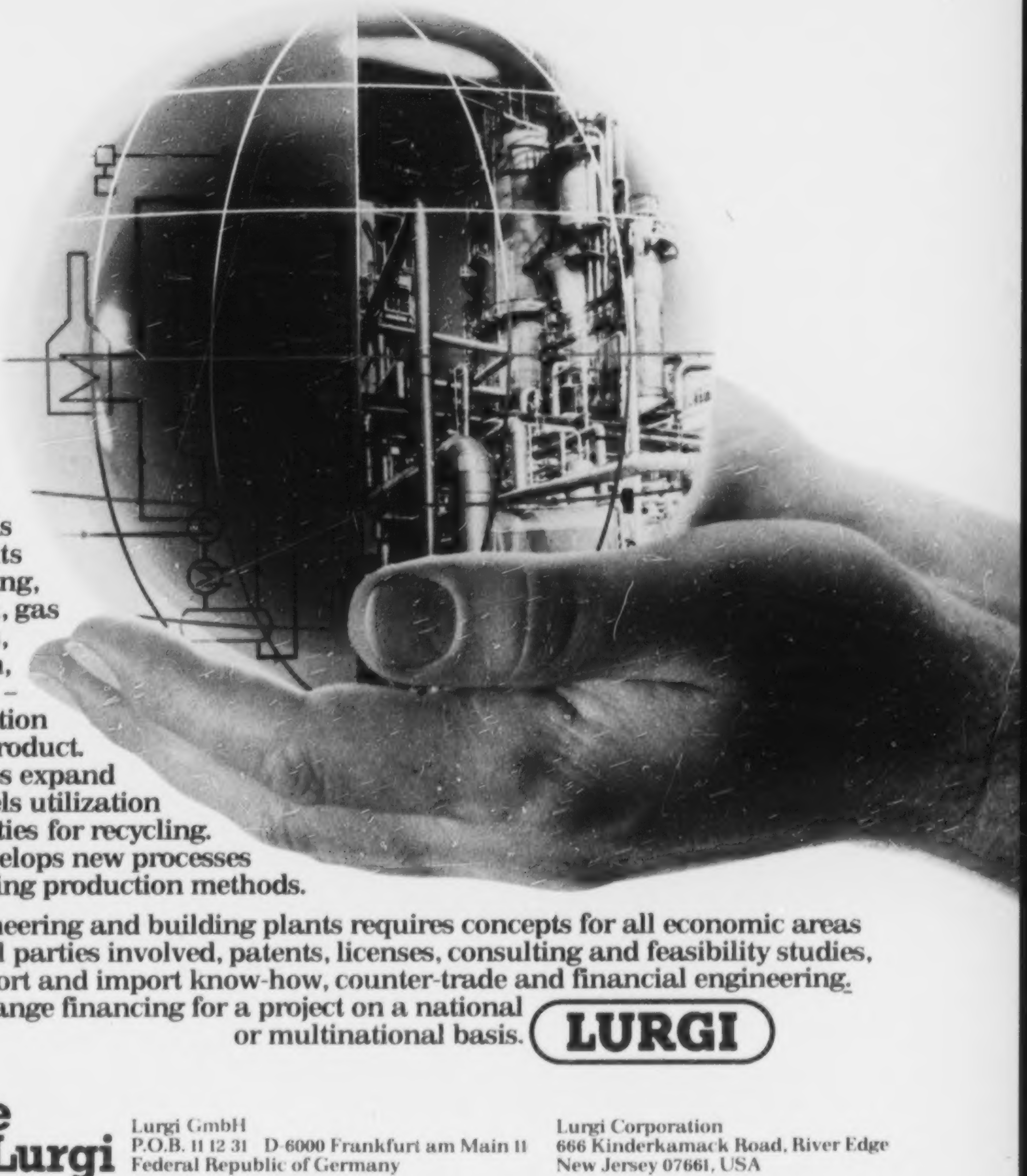

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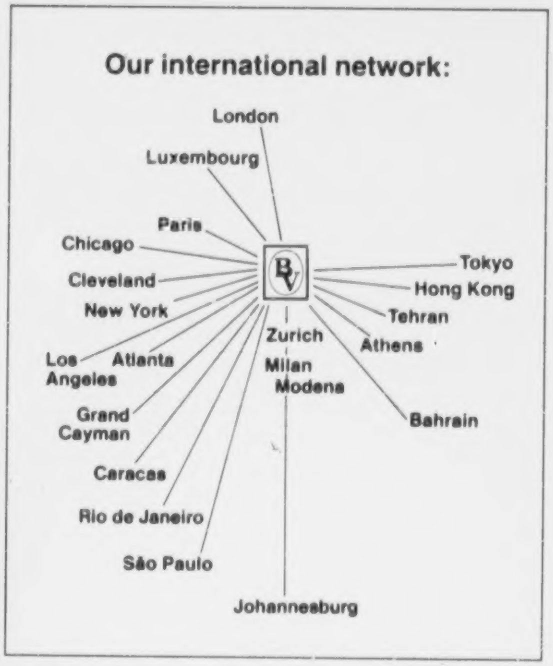

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Ueberlegungen zur Reform der deutschen Steuerstruktur

On Reforming the German Tax Structure

by Dr. Gerhard Stoltenberg
Minister of Finance
Federal Republic of Germany

The American president's courageous reform plans for a comprehensive overhaul of the U.S. tax system are presently being watched with a great deal of interest in the Federal Republic of Germany. The reform goals are worthy of respect and are without doubt set quite high: a just and simple tax law is to be drafted, tax preferences are to be eliminated to a large extent, and the tax rates are to be lowered significantly. The extensive improvements in the American tax structure are, in addition, to be financed without a loss of revenue. Connected with the tax package are the expectations that production and growth will be stimulated and that the incorrect incentives caused by numerous economic manipulation norms in the tax laws will be removed.

The structural differences between the tax systems of the U.S. and the Federal Republic of Germany make it impossible to apply the American tax proposals directly to the German situation. Still, the problems to be solved are similar and are also becoming increasingly pressing in this country. The obscurity and complexity of the tax laws, in particular income tax laws, are a major problem for us as well. One speaks of a "thicket of regulations" and a "flood of norms"; often, however, the tax laws are also described more drastically as a "tax chaos" or a "tax jungle". Not only the large number of tax provisions is criticized, but also the frequency—caused especially by court decisions—with which changes are made in tax law. It is therefore not surprising that the number of citizens who mistrust our tax system is increasing—they can no longer understand it and are left with the impression that many well-informed taxpayers extensively use the opportunities contained in the tax system to minimize their taxes at the cost of the majority. The increasing complexity in our tax legislation, which is really the result of attempts to achieve more justice has obviously caused new and serious tax injustices which can impair the citizen's tax morale and drive him to a sullen attitude toward taxes.

The complexity in the income tax laws combines with maximum tax rates which have reached critical levels for many taxpayers. The high tax burden impairs the willingness of many citizens to do productive work and encourages escape into a "shadow economy".

The high tax burden impairs the willingness of many citizens to do productive work and encourages escape into a "shadow economy".

A significant cause of the complexity is that our taxes are used for numerous non-tax elements of economic and social policy by means of a web of exemptions, preferences and special regulations. While it is disputed whether

Corporate taxes — Rates

Listed below is a summary of the more important taxes affecting corporations (AGs) and companies (GmbHs).

Corporation profits tax (*Körperschaftsteuer*)

Tax basis:
Taxable income.

Tax rates:	%
Resident corporation:	
Undistributed profits	56
Distributed profits	36
Branches of foreign corporations	50

Municipal trade tax (*Gewerbesteuer*)

Tax basis:
Trade income and trade capital.

Tax rates:	% approx. per annum
Municipal trade tax:	
On income	9–20
On capital	0.4–0.9

Net assets tax (*Vermögensteuer*)

Tax basis:
Assessed valuation of net assets or property.

Tax rate:
0.7%.

Value-added tax (*Umsatzsteuer — Mehrwertsteuer*)

Tax basis:
Proceeds from domestic sales and services; taxable imports with certain exceptions.

Tax rates:
Generally 14% (as from July 1, 1983 — previously 13%); certain transactions at 7%.

certain behavioural incentives can be an ancillary purpose of a tax, there is also agreement that economic decisions which are based on tax consequences can often lead to unfortunate investment errors.

To cut through this Gordian knot – woven from the complexity, the high tax burden and the tax interventionism – and to replace it with a comprehensible system with reasonable tax rates and free of a flood of economic manipulatin is therefore, as in the U.S., one of the highest priorities for German tax policy in the coming years.

. . . the Federal Republic has already laid some of the corner stones necessary to reach this goal.

The government of the Federal Republic has already laid some of the corner stones necessary to reach this goal.

The 1985 Tax Adustment Act *(Steuerbereinigungsgesetz)* contained, for example, a number of simplification provisions, which revoked dispensable individual regulations and contributed to greater legal certainty.

Based on the successful reduction in the government budget deficit, the federal government was also able to achieve its goals of reducing income taxes, making taxes more favorable to production, and strengthening tax relief for families. The Tax Reduction Act passed in June 1985 will reduce the burden to taxpayers by a total of almost 20 billion marks in two steps in 1986 and 1988 without other taxes having to be raised.

Overall, the effect of the reform measures will be that the burden on income taxpayers will be reduced by an average of 8 percent, and the maximum tax rate, which inhibits productivity, will be permanently reduced by up to 5.5 per cent, and by a further ½ percent per child in the family. Families with children, who make up more than one third of all taxpayers, will be the beneficiaries of more than half of the tax reduction. The increased exemption for children will mean a stronger move away from financing assistance to families only by means of government transfers. Such transfers cannot replace taxation which is favorable to families and to productivity. The Tax Reduction Act of 1985 is a significant first step toward tax laws which will be fair to families and promote production and growth.

The most important goal in the coming legislative period will be a larger tax reform, emphasizing a restructuring of the income tax. Priority must be placed on achievement of "linear progressive" income tax rates. Linear progressive tax rates are based on the simple idea of having tax rates rise evenly throughout the entire range of the progression. In this way, the excessively rapid rise in the lower and middle areas of the progression – which is now to be retained even after 1988 – would be further

. . . the excessive tax burden on the income increases of skilled workers, self-employed persons and other middle class groups would be significantly lessened.

attenuated; thus, the excessive tax burden on the income increases of skilled workers, self-employed persons and other middle class groups would be significantly lessened.

Due to the high tax losses involved, such a rate change cannot be realized in one step. It is particularly important that the stabilization of the public budget not be impaired, because the positive general economic effect of the tax reduction would be placed in serious doubt if the stabilization policy and thus the basis for further positive general economic developments were endangered thereby. Latitude for tax rate reductions can result from a continuation of the already strictly limited increases in public spending, but also through elimination of special tax provisions and exceptions. Politically, the elimination of tax preferences will certainly be an especially difficult subject. It will become easier to make progress in this area, however, as we succeed in replacing such preferences with tax rates which are favorable to productivity and thus convincing to the taxpayers. An understanding must develop that it is worthwhile to make certain sacrifices for the sake of an income tax structure which will be better in the long term.

Concerning taxation of companies, significant improvements have already been undertaken in the present legislative period. Reductions in the occupation tax and the general property tax for companies are aimed at the goal of improving the tax climate for investment and innovation decisions by companies – particularly middle-sized businesses – in order to facilitate adjustment by business to technical progress, as well as to strengthen equity accumulation and competitiveness. Our further deliberations concerning reform of corporate taxation are likewise based on the principle that the goal should not be special preferences, but instead a general lowering of taxation of profits, whereby the corporate income tax is the primary target.

A special burden on businesses is caused by the taxes not related to profit, because these must be paid even when businesses suffer losses. This is true, above all, for the general property tax which leads to a hardly justifiable double taxation on the wealth of corporations. There is agreement that this double taxation

A special burden on businesses is caused by the taxes not related to profit.

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must be eliminated. Which method will be used to do this, for instance an exemption from the general property tax for corporations and/or an exemption for the shareholder, will, however, require further study.

One problematic tax – also for German enterprises by international comparison – is the occupation tax. There has long been criticism that this tax is not neutral as to the legal form of the business, that it tends to be a tax on large enterprises, and that it is very sensitive to economic fluctuations. It will most certainly not be easy to find an alternative satisfactory to all sides because the occupation tax is the most significant local tax; the assessment rates represent the taxing autonomy of the municipalities. A change in the system would not be possible without amending the tax provisions in the constitution. Alternatives, such as participation by the municipalities in the proceeds from taxes on profits or a municipal value-added tax, have not yet been convincing. Basic improvements in the municipal tax structure, which would also involve the future of the occupation tax, can probably be achieved only within the framework of a long term, comprehensive concept for municipal finances.

With regard to financing the planned tax reductions, we will certainly have difficulties in many areas similar to those encountered by the United States.

With regard to financing the planned tax reductions, we will certainly have difficulties in many areas similar to those encountered by the United States. Due to our constitutional tax provisions, which are federalistic in nature, the interests of the states and the municipalities must be taken into consideration; in addition, our tax planning must be coordinated with the European Community's harmonization efforts. In this connection, but also in order to reach the "critical mass" for a comprehensive restructuring of the income tax rates, the relationship between direct and indirect taxes must be examined and possibly changed.

Overall, we can hope to create a tax package within the coming legislative period which can survive within the international competition of tax systems, which can improve our economy's basis for growth, and which can strengthen the foundation of our free society. ■

DEUTSCHE ZUSAMMENFASSUNG

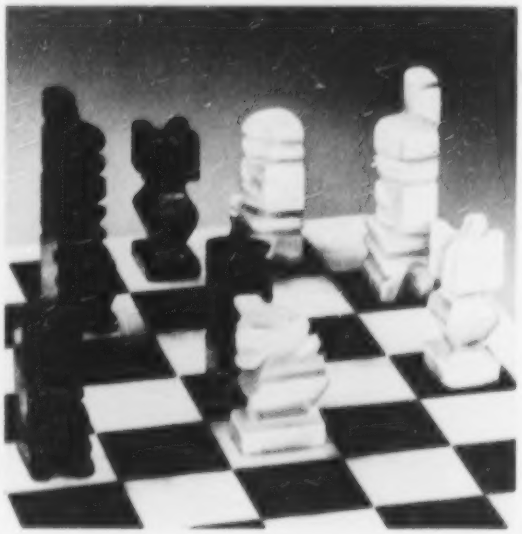
Eines der Hauptprobleme des gegenwaertigen Steuersystems ist die Unuebersichtlichkeit und Kompliziertheit des Steuerrechts, insbesondere des Einkommensteuerrechts. Die wesentliche Ursache der Kompliziertheit ist darin zu sehen, dass unsere Steuer ueber ein Geflecht von Freibetraegen, Verguenstigungen und Sonderregelungen fuer zahlreiche ausserfiskalische Zwecke der Wirtschafts- und Gesellschaftspolitik eingesetzt wird. Die Kompliziertheit des Einkommensteuerrechts trifft mit Grenzsteuersaetzen zusammen, die fuer viele Steuerpflichtige kritische Werte erreicht haben. Die hohen Belastungen beeintraechtigen die Leistungsbereitschaft vieler Buerger und foerdern die Flucht in die Schattenwirtschaft. Zu den vorrangigen Aufgaben der deutschen Steuerpolitik gehoert die Durchschlagung des Gordischen Knoten—geflochten aus der Kompliziertheit, der hohen Steuerlast und dem Steuerinterventionismus—und die Schaffung eines ueberschaubaren, mit angemessenen Steuersaetzen ausgestatteten und von einem ausufernden Steuerdirigismus befreiten Steuersystems. Einige bedeutsame Eckpunkte auf dem Weg dorthin sind von der Bundesregierung bereits markiert worden. So enthielt das Steuerbereinigungsgesetz 1985 unter anderem eine Reihe von Vereinfachungsregelungen, durch die entbehrliche Einzelvorschriften aufgehoben wurden und ein Beitrag zu mehr Rechtsicherheit geleistet wurde.

Aufgrund der erfolgreichen Rueckfuehrung der oeffentlichen Budgetdefizite konnte die Bundesregierung auch ihr Ziel, die Lohn- und Einkommensteuer zu senken, den Tarif leistungsfreundlicher zu gestalten und den steuerlichen

Familienlastenausgleich zu verstaerken, verwirklichen. Insgesamt bewirken die Reformmassnahmen, dass die Einkommen- und Lohnsteuerzahler im Durchschnitt um 8% entlastet werden und die leistungshemmende Grenzbelastung bis zur 5,5 Prozentpunkten mit Dauerwirkung abgebaut wird, zuzueglich eines halben Prozentpunktes pro Kind. Familien mit Kindern, die gut ein Drittel der Steuerzahler ausmachen, kommt mehr als die Haelfte der Steuersenkung zugute. Bei der Besteuerung von Unternehmen sind bereits in der laufenden Legislaturperiode wesentliche Verbesserungen vorgenommen worden. Mit Entlastungen bei der Gewerbesteuer und der betrieblichen Vermoegenssteuer wurde das Ziel verfolgt, die steuerlichen Rahmenbedingungen fuer die Investitions- und Innovationstaetigkeit der Unternehmen—insbesondere der mittelstaendischen Wirtschaft—zu verbessern, um die Anpassung der Wirtschaft an den technischen Fortschritt zu erleichtern sowie die Eigenkapitalbildung und die Wettbewerbsfaehigkeit zu staerken.

Wichtigstes Ziel der kommenden Wahlperiode ist eine grosse Steuerreform, in deren Zentrum eine Neugestaltung der Einkommensbesteuerung stehen soll. Vorrangig geht es dabei um die Verwirklichung des "linear-progressiven" Einkommensteuertarifs, der von dem Gedanken ausgeht, dass die Grenzsteuersaetze ueber dem gesamten Progressionsbereicht gleichmaessig ansteigen. Dadurch wird insbesondere der noch zu schnelle Belastungsanstieg im unteren und mittleren Bereich der Progression gedaempft und der viel zu starke steuerliche Zugriff auf den Einkommensteuerzuwachs betraechtlich gelockert. Die Reformueberlegungen im Bereich der Unternehmensbesteuerung setzen bei den ertragsunabhaengigen Steuern an, die auch dann zu entrichten sind, wenn Unternehmen in die Verlustzone geraten. Dies gilt vor allem fuer die Vermoegenssteuer, die zu einer kaum zu rechtfertigenden Doppelbelastung des Vermoegens von Kapitalgesellschaften fuehrt. Es besteht Einigkeit darueber, dass die Doppelbelastung beseitigt werden muss. Eine fuer deutsche Unternehmen auch im internationalen Vergleich problematische Steuer ist die Gewerbesteuer, deren mangelnde Rechtsformneutralitaet und Konjunkturempfindlichkeit schon seit langem beklagt werden. Eine befriedigende Alternative fuer die Gewerbesteuer als einer wichtigen Gemeindesteuern gibt es zur Zeit noch nicht, zumal ein Systemwechsel ohne eine Aenderung der Finanzverfassung nicht moeglich waere.

Insgesamt koennen wir aber hoffen, im Verlauf der naechsten Legislaturperiode ein Steuerpaket zu verwirklichen, das im internationalen Wettbewerb der Steuersysteme bestehen kann, das die Wachstumsgrundlage unserer Volkswirtschaft verbessert und das Fundament unserer freiheitlichen Gesellschaft staerkt.



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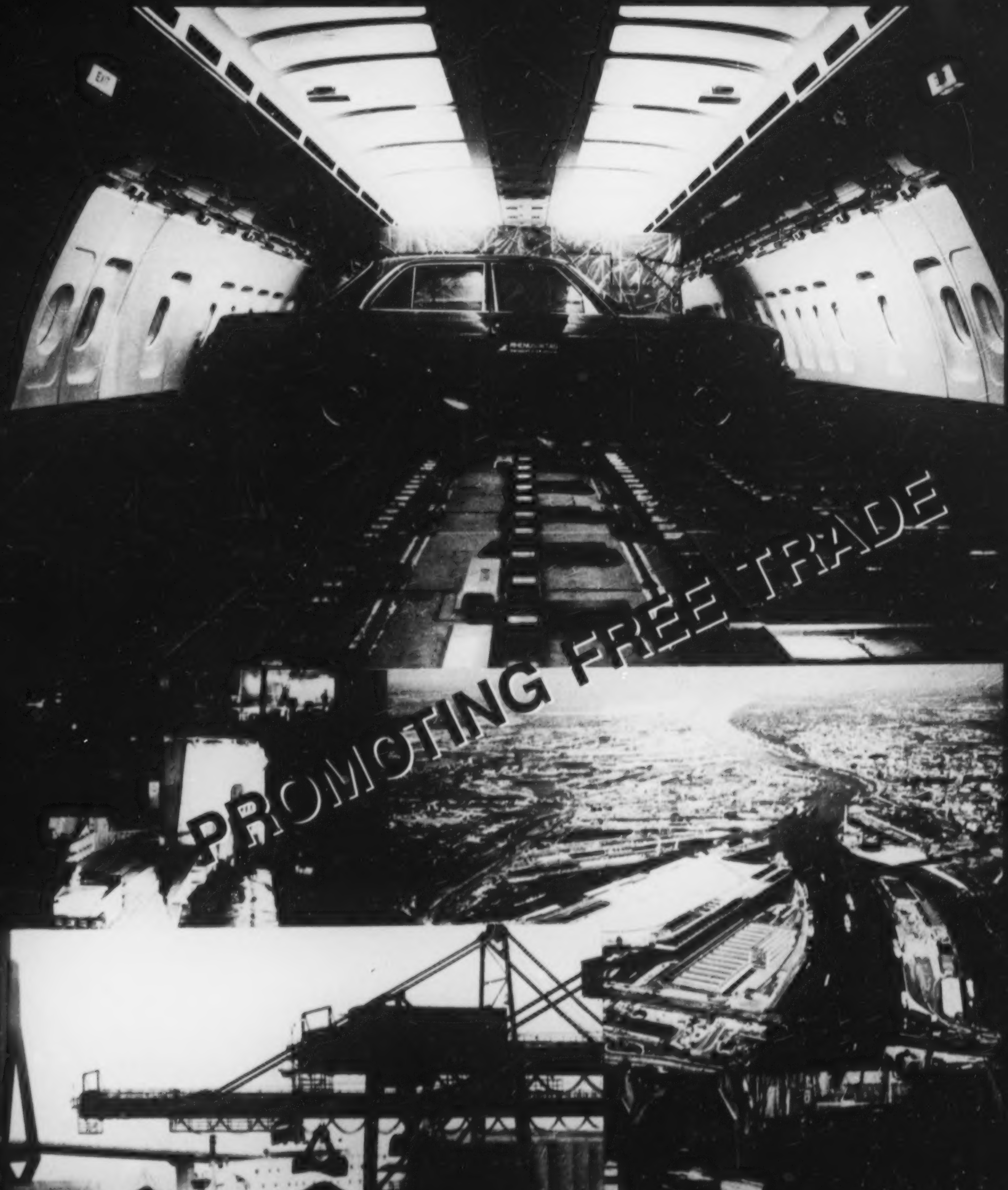

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Verteidigung und Weiterentwicklung des freien Handels – die deutsche Rolle in der EG

Defending and Expanding Free Trade: Germany's Role in the European Community

by Dr. Dieter von Würzen
State Secretary in the Federal
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Questions of Protectionism

For some years now, it has been impossible to mention protectionism within the international discussion of trade policy without the accusing finger being pointed at the European Community.

Anecdotes flourish in such an environment. A good example is the response the Oracle of Delphi is said to have given after having been asked about the outlook for trade liberalization measures being enacted in the United States, Japan, and the EC: "In the United States, prospects are good but concrete steps are not likely during the term of the present Administration. In Japan, definitive liberalization will not take place within the next hundred years. In the EC, not even the gods will live to see free trade."

Is the Community's trade policy really as bad as its reputation?

Is the Community's trade policy really as bad as its reputation? How does the extent of protectionism in the EC rank by world comparison? How does it compare to the protection of the other major trading nations? Does free trade on the Community's internal market and in its relations with third countries still have a chance? What position will the Community adopt at the upcoming new round of multilateral trade negotiations within the GATT?

What role does the Federal Republic of Germany play to defend and further develop free international trade in this environment of countervailing trends? Or does it merely have a fig-leaf function in an otherwise protectionist Community? I shall now attempt to provide answers to these questions.

The EC, which will comprise twelve countries after the accession of Portugal and Spain on January 1, 1986, is the world's largest contiguous market. With a population of 273 million, a gross national product of 2,916 billion dollars, and a 19.5% share of world trade (without internal trade), the present Community of ten nations outstrips Japan, the Soviet Union, and even the United States.

This large market with its enormous supply and demand potential is of immense importance for the entire global economy – for North and South, East and West, and for industrial and developing nations. For in shaping the terms of access to its market, the Community establishes patterns which influence the development of trade, growth, and employment within the economies of its trading partners.

Together with the United States and Japan, the European Community thus bears major responsibility for the world economic trend. If the Community keeps its borders open, if it cooperates to implement the necessary removal of the many varieties of open and hidden trade barriers, and if it plays an active role in the upcoming round of multilateral trade negotiations, it will thereby be making a large contribution toward solving global economic problems, toward reducing worldwide unemployment, and toward relieving the Third World's debt burdens.

But if it should limit itself to defending the status quo or even enforce ever more novel and subtle trade barriers, particularly in the agricultural field, if it should counter threats of retaliation by deploying even heavier guns, then it will only be dangerously fanning the already hot fires of protectionism.

The Airbus – a "European" venture – shown at the Cologne/Bonn airport.

Protectionist solutions for the problems of growth and employment are illusory.

All of the world's major trading nations, the United States, Japan, and also the European Community are familiar with the experience of the Thirties.

Protectionist solutions for the problems of growth and employment are illusory. Against the background of short term protective interests, it is naturally possible to erect and strengthen trade barriers, to meet trading partners' countermeasures by retaliating anew, and finally even to unleash a trade war. This could easily bring international trade to a standstill.

It would be no great problem to export domestic unemployment problems, thus presenting trading partners with major difficulties verging on depression. No one would benefit from such a policy. All of the world's major trading nations, the United States, Japan, and also the European Community are familiar with the experience of the Thirties. This type of "beggar-my-neighbor" policy creates an extremely dangerous spiral of protectionism and depression. The consequences for all involved could be catastrophic.

On neither side of the Atlantic should this experience be forgotten; export subsidies, import taxes, quotas, demands for reciprocity, and all other measures which curb international trade rebound to strike those who introduce or sustain them. There is no alternative to free trade or to the necessity of removing existing and new protectionist restrictions.

Principles for Trade Policy

Free trade, the removal of trade barriers, and tariff reduction are by no means mere guidelines for the Community's trade policy which, while regarded from a German perspective as politically and economically constructive, are otherwise subject to approval by each of the respective Member States. Rather, these are basic principles which are embodied in the preamble and text of the Treaty establishing the European Economic Community and serve as law which is directly binding on the trade policy of the Community.

. . .basic principles. . .are embodie in the preamble and text of the Treaty establishing the European Economic Community. . .

Article 110 of the Treaty provides a clear target for orientation of the Community's trade policy. "By establishing a customs union between themselves Member States aim to contribute, in the common interest, *to the harmonious development of world trade, the progressive abolition of restrictions on international trade and the lowering of customs barriers.*"

The clear wording of the Treaty shows that this liberalization program applies both to internal and to external trade; this means that trade barriers within the Community's internal market are to be lowered parallel to the process of external trade liberalization. This institutionalized roll-back commitment makes the EC unique among the leading trading powers.

This institutionalized roll-back commitment makes the EC unique among the leading trading powers.

Implementing a Trade Program

To what extent has this ambitious program been implemented? Has the Community shown itself to be serious about its commitment to trade liberalization or has the commitment remained lip service?

1. *Common Internal Market*

At great effort and confronted with obstacles, but with quite considerable success as we view the matter today, the Community has removed internal tariff barriers, extensively decreased all other trade restrictions, and harmonized numerous rules of relevance for free merchandise trade in order to create a large contiguous common market. The Community's trading partners can profit directly from this.

It is considerably easier to export to a largely harmonized Common Market than to twelve individual markets.

2. *External Customs Protection*

As a result of three major rounds of GATT negotiations (Dillon, Kennedy, Tokyo), the EC's external tariffs on manufactured goods have been lowered to a record level (an average of 5 to 6%). The EC tariff contains 21 headings exceeding 15% and only 5 headings exceeding 20%. Apart from this, approximately one-third of industrial imports into the Community arrive duty free owing to free trade arrangements and tariff preferences.

Except for only a few products (e.g. semiconductors and integrated circuits with 17% duty) retaining a high nominal duty and a number of goods on which a high duty is charged relative to the industrial value added (e.g. plant oils and mineral oils), duties no longer play all too important a role as protective instruments. There are, however, always new attempts to reactivate this function.

. . .the Community contributed significantly to the liberalization of world trade parallel to the removal of intra-European tariffs.

After being urged by non-member countries, by the United States in particular, the Community contributed significantly to the liberalization of world trade parallel to the removal of intra-European tariffs.

Many have forgotten, for instance, that France and Italy were high-tariff countries at the end of the Fifties and that they maintained car duties, for example, of more than 30% (EC today: 11%).

But the sharp reduction in tariffs during the Sixties and Seventies probably contributed to reviving the alleged "need" for protection by less transparent instruments (gray-zone measures).

3. *Import Quotas*

The EC has no Community-wide import quotas. On the other hand, there are still national remnants from pre-Community days. These play a certain role, particularly as concerns the state-trading nations, Japan, Korea, Hong Kong, and Taiwan. The most blatant example is the Italian restriction of Japanese car imports to an unbelievable 3,000 a year, not much more than one per thousand annual car registrations. The number and importance of such quotas are relatively limited, especially since they protect only part of the Community, above all, France and Italy, while the other Member Sates remain accessible to imports. In such cases, the other Member States, particularly the Federal Republic, are bearing rather considerable burdens.

4. *Voluntary Export Restraints*

The Community has its substantial share of this modern form of protectionism. Three elements are to be named in this context: textiles (MFA), steel, Japan.

The restrictions in textile imports are doubtlessly the most persistent and widespread both within the EC and all industrialized countries. The Community has signed bilateral voluntary export restraint agreements with twenty-seven countries.

Textile imports are unfortunately obstructed by strong protectionist measures in nearly all countries of the world.

But the import restrictions have yielded neither a full import stop nor even a reduction of imports; rather, the rapid expansion of imports has been slowed and there has been a certain shift of imports from developing nations to industrialized countries. Textile imports are unfortunately obstructed by strong protectionist measures in nearly all countries of the world, not least of all also in the United States of America. In this connection, everyone is living in a house of glass.

Since 1979, the EC has concluded steel arrangements with the most important exporters (Korea, Brazil, Japan, Spain, South

Africa, Eastern Europe) to regulate steel imports. There are arrangements with a total of fourteen supply countries. Renewed annually, however, they do provide the exporting countries with the advantage of a waiver by the Community of its right to open anti-dumping and anti-subsidy proceedings in return for the exporting countries' commitment to moderate exports, i.e. to limit quantities.

Since the beginning of the Eighties, the EC has urged Japan to restrict certain industrial exports. In 1985, roughly ten products fell under these arrangements. But only in two cases (video and television tubes) were numbers prescribed. Otherwise, these were qualitative arrangements.

5. *Agricultural Policy*

In the course of the years, the Community has developed a systematic protective system primarily based on variable levies and price adjustment. In this manner, the EC could set its price level largely independent of its competitors on the world market. The consequence is that the EC has become the world's second largest agricultural exporter; from its former role of net importer of products such as milk and meats, it has developed into a net exporter. Protection has led to production. Since the establishment of the Community, agricultural protection has therefore been the target of justified criticism, both in the EC and elsewhere. Farm products, however, are protected everywhere, not only in Europe.

. . .the subsidies of the Community and its Member States. . .distort competition and trade flows.

6. *Non-Tariff Barriers to Trade*

There are also a number of measures outside the framework of classic trade policy and at the same time effective in impeding trade. Chief among these are the surge of the subsidies of the Community and its Member States, which distort competition and trade flows. These include aid for restructuring, reduction of capacities, and research and development particularly in the steel, shipbuilding, textiles, and agricultural sectors.

Mention should also be made of administrative trade impediments of the most varied nature such as veterinary directives, customs regulations, licensing rules, certificate of origin requirements, technical rules, and restrictions imposed on public contracts.

Entire sectors such as insurance, telecommunications, and transport have not yet been fully liberalized; this is true both within the Community and vis-à-vis third countries.

We should also not forget the possibilities of abuse of anti-dumping proceedings or of the Community's so-called new trade policy instrument. In the face of international efforts to remove trade barriers, general protective instruments which make interventin in international trade a possibility beyond the exercise of justified interests of protection are providing the wrong trade policy signals.

Protectionism Still Remains

Above all, in the Federal Republic of Germany with its high share of exports (a good third of its GNP is generated by exports with every fourth job directly dependent on sales abroad), this list of protectionist sins is viewed with concern. From the German perspective, each protectionist measure is one too many.

From the German perspective, each protectionist measure is one too many.

On the other hand, despite its undisputed sins, the Community is far from being as protectionist as many often claim. If this were the case, the array of merchandise available in our department stores would be far less mixed and international. And it would not have been possible, for example, for the United States largely to dominate the European markets with its data processing and copying equipment.

Nor would the Japanese be able to lead the European markets in video recorders, motorcycles, cameras, or recreational electronics. And there would not be as many newly licensed Japanese cars in the United States.

. . .the United States also boasts a long list of trade sins: steel, textiles, automobiles, and agriculture, to name but a few.

The Community must, of course, be treated in an international context; it should not be viewed in isolation. It should, for instance, be taken into account that the United States also boasts a long list of trade sins: steel, textiles, automobiles, and agriculture, to name but a few. Not to mention Japan!

The various steel arrangements concluded by the United States with its trading partners are not shining examples of free trade. Sectoral and nation-related import restrictions in this area are violating basic GATT principles. Beyond the specific trade-impeding impact of these various steel agreements, there is the great danger that the groundwork for a kind of world steel market regime is being laid, a development which in the long run would benefit none of the major world trading nations.

In the textile area, it is also true that both the

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Community and the United States are pursuing a trading policy which could hardly be described as liberal. The developing nations will certainly view the willingness of the industrial nations to clearly lay the basis in a more liberal direction as a touchstone for their cooperation at the upcoming new round of GATT negotiations. Legislative initiatives such as the Jenkins Bill are doubtlessly little suited to create trust among the developing nations.

In the farm sector, the Community is also not the only trading power which is intervening and distorting trade flows. Markets can be disturbed by the BICEPS program for export promotion and by the internal support measures for the United States' agricultural industry just as they can be by the CAP, the Community's common agricultural policy. Unlike the Community, incidentally, the United States has unilaterally applied a waiver to remove temporarily its agricultural sector from the authority of the GATT rules.

In the textile area . . . both the Community and the United States are pursuing a trading policy which could hardly be described as liberal.

The voluntary restraining measures on automobiles which Japan has agreed to in an arrangement with the Americans are also an objectionable trade-impeding gray zone, one which fortunately has now come to an end.

Japan, the world's third largest trading power after the EC and United States, is also guilty of a list of trade policy sins, the extent of which most likely far outweighs that of the United States and also that of the Community. Without wanting to go into further detail here, I wish to recall the small share of manufactures (less than 25%) in Japanese imports as the result of the various trade barriers in Japan. This is far higher in the Federal Republic (more than 56%) and in the Community as a whole (over 50%), thus underlining the internationalization of the latter two's economies.

But the problem is not solved by relativizing it, by pointing to the protectionist stains on the white vests of the Community's trading partners. In line with the manner of thinking "If you push my agricultural sector, I'll shove your steel industry," protectionism could quickly spiral into unreachable heights. A well-contrived system would then arise, ultimately producing only losers.

The primary aims of such measures are protection of domestic industry and neutralization of unfair terms on which domestic firms must compete. But at the same time, both consumers

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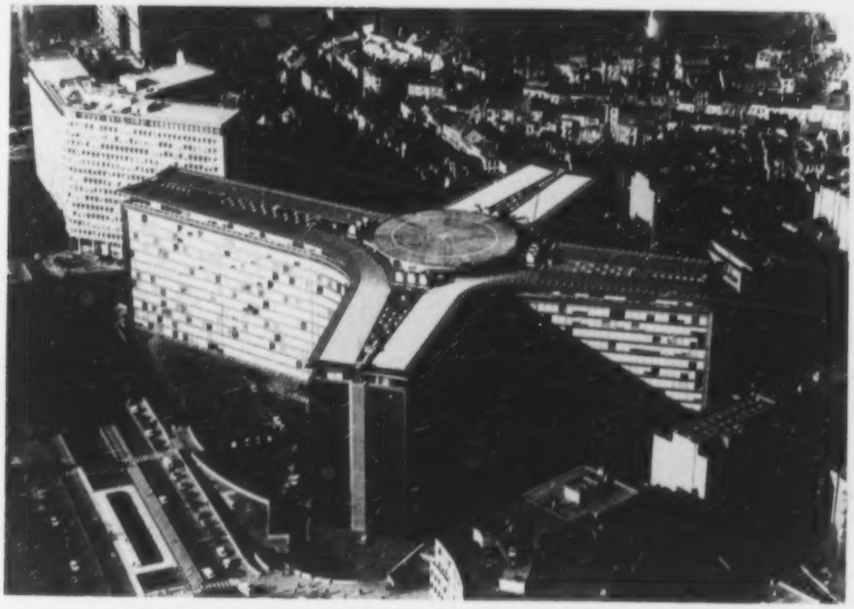

The headquarters of the European Community, Brussels.

THE EUROPEAN COMMUNITY INFORMATION CENTER

The situation will not be improved if the leading world trading nations merely harmonize the existing level of protectionist measures.

and industry are deprived of the benefits of obtaining products at lower world market prices. From a German perspective, the drawbacks of protectionism are so obvious they need not be discussed. The situation will not be improved if the leading world trading nations merely harmonize the existing level of protectionist measures.

Germany and Trade Liberalizaton

Therefore, for the Federal Republic of Germany as an export-oriented country, there is no alternative to vigorous efforts toward a liberal trade policy to be pursued by the Community.

Comparisons always falter, but it is perhaps possible to describe the German position relative to the Community as comparable to that of the Administration vis-à-vis Congress. Both work hard and consistently against introduction of new trade barriers; they warn against the dangers of giving in to stubborn wishes by certain branches for protective measures; and they fight for the removal of existing trade barriers. It is this that characterizes our efforts in the Community's various decision-making bodies.

This continuous struggle against the protectionist tide sometimes, although not always, takes the form of a debate about words and terms. The consequences of this debate have far-reaching potential. Thus, we are alert to attempts such as those within the Community to replace the unequivocal free trade principle with terms such as "fair" or "balanced" trade and we react accordingly.

Behind these efforts is nearly always the intent of finding a way to protect domestic industry from export drives by trading partners. For even though they may be the result of good performance, they are unwelcome.

The liberal trade policy pursued within the European Community by the Federal Republic has two main aims. On the one hand, we are working for accelerated development of the internal market. Even after almost twenty years of common trade policy, not all of the internal trade barriers have been eliminated. Above all, large areas of the services sector such as telecommunications, banks, insurance, and transport still await full liberalizaton.

On the other hand, the Federal Republic is making great efforts to ensure that the Common Market is sustained and will become open to third countries, and that the removal of internal trade barriers will not become the occasion for erecting external walls. "Eurosclerosis" would be the consequence if the Community sought to decouple itself from the external pres-

From a German perspective, the drawbacks of protectionism are so obvious they need not be discussed.

Above all, large areas of the services sector such as telecommunications, banks, insurance, and transport still await full liberalization.

sure of competition.

For this reason, the Federal Republic is also the main advocate for the Community to play an active role in the new GATT round of multilateral trade negotiations. We have been successful in convincing the still-hesitant Member States and together with the other supporters of the new round have set the Community on a positive course. We will make sure that the EC remains on this path and, in line with its standing as the world's largest trading entity, that it influences the conduct and course of the multilateral negotiations by making initiatives of substance.

It is therefore of great satisfaction for us that the action of the European Community in Geneva, unified and intent on mediation, has contributed importantly to the successful start of preparations for the new GATT round.

It is now important that concrete negotiations begin soon, that the other supporters of the new round among the major world trading nations not disturb this hopeful process by the introduction of new trade obstacles, and that they not withdraw from the multilateral GATT system by strengthening bilateral or plurilateral tendencies. ■

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DEUTSCHE ZUSAMMENFASSUNG

Die EG, die ab dem 1. Januar 1986 mit den neuen Mitgliedern Portugal und Spanien 12 Staaten umfassen wird, ist der groesste zusammenhaengende Markt der Welt. Mit einer Bevoelkerungszahl von 273 Millionen Menschen, einem Bruttosozialprodukt von 2.916 Milliarden Dollar und einem Anteil am Welthandel (ohne EG-Binnenhandel) von 19,5% uebertrifft sie sogar die USA, aber auch Japan und die Sowjetunion. Dieser riesige Markt mit seinem immensen Nachfrage- aber auch Angebotspotential ist fuer die gesamte Weltwirtschaft von grosser Bedeutung. Zusammen mit den USA und Japan traegt die EG damit eine grosse Verantwortung fuer die wirtschaftliche Entwicklung der gesamten Welt. Eine protektionistische Loesung fuer die bestehenden Wachstums- und Beschaeftigungsprobleme ist illusionaer und koennte letztendlich sogar den internationalen Handel zum Erliegen bringen.

Das Freihandelsprinzip, die Beseitigung von Handelsbeschraenkungen und der Zollabbau sind fuer die EG aber nicht nur disponible Leitlinien fuer ihre Handelspolitik. Diese Grundprinzipien sind vielmehr in der Praeambel und im Text des Vertrages zur Gruendung der Europaeischen Wirtschaftsgemeinschaft festgeschrieben und unmittelbar geltendes Recht fuer die Handelspolitik der Gemeinschaft. Artikel 110 des EWG-Vertrages enthaelt fuer die Ausrichtung der gemeinschaftlichen Handelspolitik eine klare Zielbestimmung. Dieser Artikel lautet: "Durch die Schaffung einer Zollunion beabsichtigen die Mitgliedstaaten, im gemeinsamen Interesse zur harmonischen Entwicklung des Welthandels, zur schrittweisen Beseitigung der Beschraenkungen im internationalen Handelsverkehr und zum Abbau der Zollschranken beizutragen". Dieses Liberalisierungsprogramm gilt nach dem klaren Wortlaut des EWG-Vertrages nach innen wie nach aussen; d.h. der Abbau der Handelshemmnisse auf dem EG-Binnenmarkt soll mit einer Handelsliberalisierung nach aussen Hand in Hand gehen.

Dieses anspruchsvolle Programm ist in wesentlichen Punkten verwirklicht worden. Aus heutiger Sicht kann es als ein Erfolg gewertet werden, dass unter grossen Muehen und anfaenglichen Widerstaenden durch die Beseitigung der internen Zollschranken und den weitgehenden Abbau von sonstigen Handelsbeschraenkungen ein grosser zusammenhaengender gemeinsamer Markt geschaffen worden ist.

Es besteht ein wirksamer Zollschutz der EG gegenueber Drittlaendern. Die Zollschranken gegenueber Drittlaendern sind aber als Folge der drei grossen GATT-Runden (Dillon, Kennedy und Tokio-Runden) im industriellen Bereich auf ein nie zuvor erreichtes Niveau abgesenkt worden. Abgesehen von wenigen Erzeugnissen mit noch hohem nominellem Zoll spielt der Zoll heute als Schutzinstrument in der EG keine allzu grosse Rolle mehr.

Als ein Erfolg kann es auch bezeichnet werden, dass es in der EG- abgesehen von einigen nationalen Restbestaenden aus der Vor-EG-Zeit, deren Zahl und Bedeutung relativ begrenzt sind—keine gemeinschaftsweiten mengenmaessigen Einfuhrbeschraenkungen gibt.

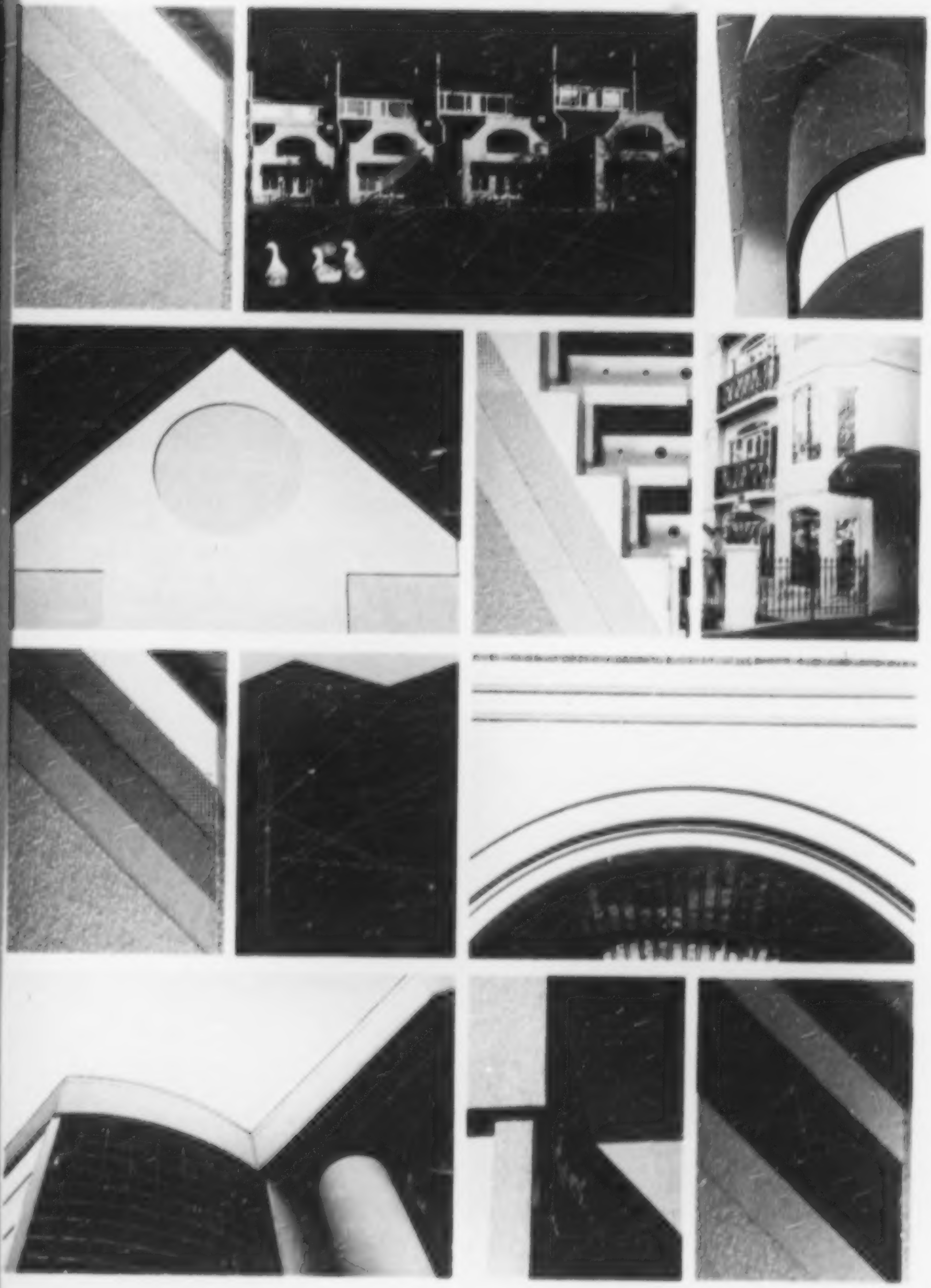
Allerdings gibt es noch eine Reihe von Handelshemmnissen. Die wichtigsten sind Ausfuhrselbstbeschraenkungen. Die EG hat einen betraechtlichen Anteil an dieser modernen Form des Protektionismus. Betroffen sind vor allem Textilien und Stahl. Die Einfuhrbeschraenkungen auf dem Textilsektor haben allerdings nicht zu einem totalen Einfuhrstop oder gar zu einem Rueckgang der Einfuhren gefuehrt, sondern nur eine Verlangsamung des raschen Einfuhrzuwachses sowie eine Verlagerung der Einfuhren von Entwicklungslaendern auf Industrielaender zur Folge gehabt. Seit 1979 schliesst die EG mit den wichtigsten Stahlexportlaendern Arrangements zur Einfuhrregulierung ab, wobei andererseits von der moeglichen Eroeffnung von Antidumping- und Antisubventionsverfahren abgesehen wird. Ausserdem draengt die EG gegenueber Japan auf Maessigung bei den Exporten. 1985 fielen ungefaehr 10 Erzeugnisse unter diese Maessigungsvereinbarungen.

Im Agrarbereich hat die EG im Laufe der Jahre ein Schutzsystem entwickelt, das vor allem auf dem Instrument der variablen Abschoepfung beruht. Der Agrarprotektionismus ist nicht zu Unrecht Zielscheibe der inneren und aeusseren Kritik. Allerdings ist der Agrarprotektionismus ein universelles Prinzip, nicht nur in Europa, sondern wohl ueberall in der Welt.

Daneben gibt es noch eine Reihe nichtarifaerer Handelshemmnisse. Hierzu zaehlen in erster Linie die wettbewerbs- und handelsverzerrenden Subventionen der Gemeinschaft und ihrer Mitgliedslaender.

Aus deutscher Sicht ist jede protektionistische Massnahme ein Handelshemmnis zuviel. Es ist allerdings nicht zu uebersehen, dass auch in anderen Staaten noch erhebliche Handelshemmnisse existieren und dass auch die Vereinigten Staaten ueber ein eigenes handelspolitisches Suendenregister—Stahl, Textilien, Automobile, Agrarprodukte—verfuegen, von Japan ganz zu schweigen. Die Importbeschraenkungen im Stahlbereich verletzen die GATT-Grundprinzipien des freien Welthandels und bergen die Gefahr, dass der Kern fuer eine Art Weltstahlmarktordnung gelegt wird, von der keine der grossen Welthandelsnationen auf Dauer Vorteile haette. Auch Japan als die drittgroesste Welthandelsnation neben der EG und den USA weist ein handelspolitisches Suendenregister auf, das vom Umfang her alle anderen in den Schatten stellt.

Fuer die Bundesrepublik Deutschland als exportorientiertes Land gibt es keine Alternative zu einer liberalen Handelspolitik in der EG. Diese liberale Grundlinie hat vor allem zwei Hauptstossrichtungen. Zum einen setzen wir uns ein fuer einen beschleunigten Ausbau des EG-Binnemarktes; zum anderen macht sich die Bundesrepublik dafuer stark, dass der gemeinsame Markt drittlandsoffen bleibt oder wird und dass der Abbau der Handelsschranken im Innern nicht zum Anlass fuer eine Abschottung nach aussen genommen wird. Deshalb ist die Bundesrepublik auch der Hauptantreiber fuer eine aktive Rolle der Gemeinschaft in der anstehenden neuen GATT-Verhandlungsrunde.



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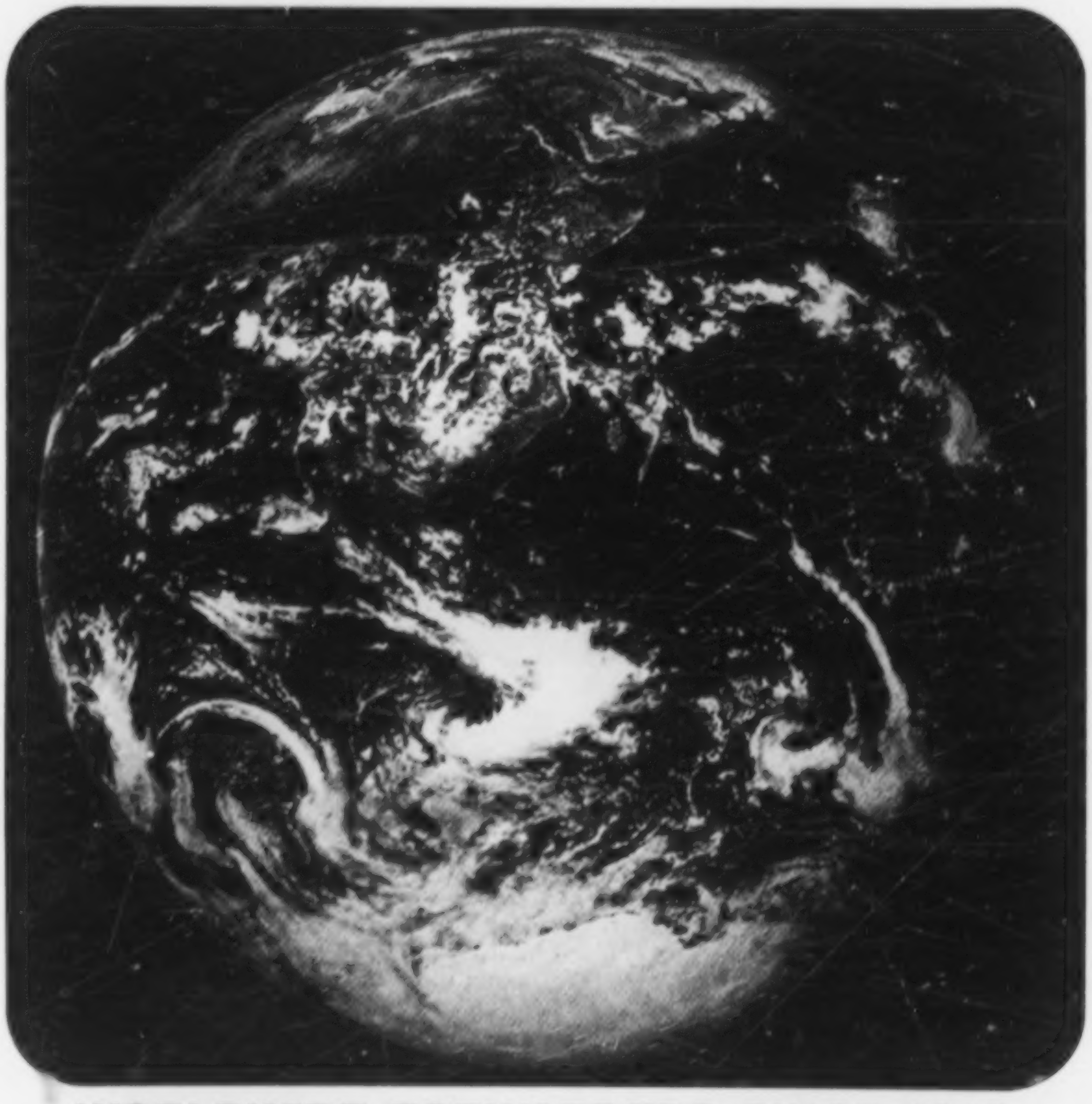

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Defense and Promotion of Free Trade in the U.S. and the International Arena

by Jack Danforth
United States Senator
State of Missouri

It has become essential that U.S. foreign trade policy receive proper attention from Congress and the Administration. We can no longer allow our trade policy to take a back seat to tax policy and general foreign policy. Congress needs to promptly and seriously consider three propositions as the basis of U.S. foreign trade policy.

We can no longer allow our trade policy to take a back seat to tax policy and general foreign policy.

Proposition I. An effective international trading system, fostering the principles of free trade, is clearly in the best interests of the United States and of the world.

Proposition II. The international trading system, as it exists today, is malfunctioning. Unless the system is made to work, it is doomed.

Proposition III. Congress needs to know that something is being done to fix the system before it grants new negotiating authority to the President.

I. Necessity of Free Trade

That free trade is in the best interest of our country is so obvious to me that it went unstated in the first draft of these remarks. However, so many commentators have raised the specter of protectionism that a clear statement of principle is in order.

A return to protectionism would be a disaster for our country. It would threaten the jobs of one sixth of our work force, and it would destroy our farmers. It would increase consumer prices and reduce consumer choice. It would ruin our economy and the economies of our trading partners.

The Smoot-Hawley Tariff Act did contribute to the Great Depression. To repeat the same mistake more than half a century later would be an act of gross stupidity. The goal of the United States should be to open markets, not to close them.

The benefits of an open trading system to the rest of the world are no less obvious. In the past two years alone, America's open markets have been the main engine of world growth.

A return to protectionism would be a disaster for our country. It would threaten the jobs of one sixth of our work force, and it would destroy our farmers.

To insist that international agreements be enforced, and that unfair trade barriers be removed, is not protectionism. The reason for negotiating international agreements and enacting enabling legislation is to provide a system for conducting world trade. Section 301 of the Trade Act gives the President the tools to open markets closed by unfair trade practices. It gives our people an opportunity to enjoy the benefits of free and fair competition. Clearly, a system that fosters such competition deserves all the support we can give it.

In the past two years alone, America's open markets have been the main engine of world growth.

II. Malfunctioning of International Trading System

The second proposition is that the international trading system is malfunctioning. Our Government has neglected it. Other countries have abused it. What is happening today was never intended when GATT was established in 1947.

GATT was intended to operate for the mutual benefit of all its members. All were to benefit by the rules of free trade. All were to have access to world markets. All were to seek the benefits of comparative advantage.

. . . no trade laws, however well enforced, will give Americans a fair chance to compete in the international marketplace if an overvalued dollar has the same effect as a 25-50 percent tariff.

In 1947, no one could have anticipated that a single country would run a $123 billion trade deficit in a single year. Nor could one have guessed our trade deficit's geometric rate of escalation since the beginning of this decade, up from $40 billion just two years ago.

The nature of our trade deficit has been changing as rapidly as its size. In the 1970's, we were importing fuel and raw materials. Last year, 72 percent of the deficit was manufactured goods. Nor are we offsetting the merchandise trade deficit by exported services and by returns on foreign investment, as we were as recently as 1981. Last year, we ran a current account deficit of over $100 billion.

A number of causes have been cited for these ballooning numbers: The United States was first to recover from a worldwide recession, making our market far more lucrative than those of our trading partners. Huge debt obligations led Third World countries to restrict imports and subsidize exports. American business and labor are pricing themselves out of the world market. But two causes deserve special attention, neither of which was anticipated when GATT was established: Floating exchange rates and the proliferation of non-tariff barriers to trade.

When the world trading system was created, it did not anticipate a dollar which would rise or fall by the hour, which would change as money managers move billions overnight to a perceived safe haven, which would go up with U.S. interest rates and down with the closing of saving and loan associations in Ohio. It did not envision appreciations in currency which would effectively tax U.S. exports and subsidize U.S. imports.

Today, we are told that the over-valued dollar has the same effect as a 25-50 percent foreign tariff on American products, that it is the most important single cause of the trade deficit, and that the rules of international trade provide no way of relieving the problem. So, imports stifle economic recovery. Recovery by-passes key sectors of the economy, including agriculture, manufacturing, and mining. Import-sensitive and export-competitive industries fail or move offshore, and America's economic base is eroded forever.

No trade agreements, however sound, no trade laws, however well enforced, will give Americans a fair chance to compete in the international marketplace if an overvalued dollar has the same effect as a 25-50 percent tariff. To say this is not to belittle trade agreements. Rather it is to state the absolute necessity of dealing effectively with the exchange rate issue. One way or another, this problem must be solved.

The trade deficit is one of several reasons we must succeed in getting the Federal budget under control. The budget is the subject before Congress today, and no suggested trade measure should divert our attention from the goal of a $50 to $60 billion reduction in the budget deficit. To those who argue that the present furor over unfair trade practices is a distraction from the real problem of the budget, I repeat: Nothing can be allowed to distract us from the budget. The Federal budget must come first.

Yet there are those who argue that a serious reduction in the budget deficit will not reduce the value of the dollar, will not reduce it sufficiently or that it will have the opposite effect – that it will inspire even more confidence in the United States as a safe haven for foreign investment.

If this is so, if conventional wisdom about the link between the budget and exchange rates does not prove correct, then an unconventional way must be found to offset the effect of a high valued dollar.

Several unconventional ideas have been suggested. They include a strategic currency reserve, import surcharges, tax incentives for savings, a value-added tax and capital controls.

I am not prepared at this time to endorse any of these ideas, especially since the better and more cautious suggestion of a reduced budget deficit has not been tried. I do say that no trade-policy can work if the exchange rate problem is not resolved.

It has been my view that the most direct and responsible way to secure a more favorable valuation of the dollar would be significant reductions in the federal budget deficit. Congress did not make a big enough dent in the budget deficit this year to improve the dollar's value. Therefore, I think it is perfectly appropriate for the Administration to take a more activist approach to getting the dollar's value down against major currencies. I do say that if the dollar cannot be reduced by a budget resolution, then it must be offset by some other method.

Resolving the exchange rate problem is the sine qua non of effective trade policy. Yet even if we were to reduce the dollar, Americans would still not have access to other markets when non-tariff barriers to our exports spring up faster than we remove them. Therefore, we must proceed on two tracks at the same time. We must deal with exchange rates, and we must remove unfair barriers to American exports.

When tariffs were the principal means of excluding imports, free trade seemed an attainable goal. Tariffs are visible, measurable, and easily reduced.

But today protectionist countries do not need to rely upon tariffs. Other, more subtle and equally effective barriers are at hand. These range from discriminatory standards to licensing to bureaucratic delay to restrictions on investment.

Much of our attention is on Japan, but it is not the only country with import barriers. We have them. Canada and Europe have them, and, with increasing significance so do developing countries.

What sets Japan apart is this: No other nation contributes so little to the open trading system in relation to its gains from that system. International trade cannot function effectively when the world's second largest economy abdicates its responsiblities to the system.

Today, our efforts to stop unfair trade practices are embarrassingly ineffective.

Today, our efforts to stop unfair trade practices are embarrassingly ineffective. It is embarrassing to watch the President of the United States plead with the Prime Minister of Japan. It is embarrassing to see one negotiating delegation after another return from Tokyo with hopeful announcements and no new sales. It is ineffective when our exports to Japan grow by 2 percent while our imports grow by 38 percent. Our efforts are embarrassingly ineffective, and, I submit, they are dangerous as well.

To the best of my knowledge, the United States has never used Section 301 of the Trade Act to retaliate against Japan. Now retaliation is a nasty word. It suggests a loss of temper, a desire to strike back. Critics expressed that view when the Senate Finance Committee voted to retaliate against Japan.

But retaliation is not synonymous with a loss of temper or a desire to strike back in rage. Rather, Section 301 gives the President authority for a measured response to unfair trade practices, in total conformity with GATT.

The strongest argument we use against our own protectionists – against, for example, advocates of domestic content legislation – is that American protectionism would lead to retaliation abroad. It would hurt our own people. We tell our own people that, when it comes to trade barriers, there is no free lunch.

We have not done a good job of using the laws we have. The interest in Section 301 cases against unfair practices, in protecting intellectual property rights, in cataloguing barriers – all these were addressed by Congress in the 1984 trade bill. The point is to have a day-in, day-out policy of finding and removing foreign trade barriers. I know that many in Congress share my hope that the Administration will follow its words with action.

Yet, by our inaction, we tell our trading partners, that there is a free lunch.

Yet, by our inaction, we tell our trading partners that there is a free lunch. We tacitly let them know that they are free to impose whatever restrictions they like to imports from the United States and that we will do nothing. We will not use Section 301 to retaliate, no matter what.

The same is true with regard to Section 201 of the Trade Act. When people bring cases under Section 201 of the Trade Act, they should have some reasonable chance of getting relief. The system should accommodate emergencies. The system should accommodate undue dislocation, and provide, under a legal structure, the ability to provide some relief for American industries for a limited period of time, provided that compensation is paid as required under the General Agreement on Tariffs and Trade. That is the way the system is supposed to work.

The President's denial of temporary import relief for the shoe industry under Section 201 is a disaster for U.S. trade policy. The footwear industry played by the rules. The industry proved its case before the International Trade

Commission, an independent agency created to rule on such requests. Having proven its case, the industry is now told that it has wasted its time and that it will get no help under the law. The tragic, although unintended, effect will be to encourge protectionist bills in Congress.

The President's denial of relief is a tragedy, as well, for the more than 120,000 people employed by the footwear industry. Consider the condition of the shoe industry and its request for help in coping with a flood of imports, primarily from Taiwan, Korea and Brazil. The industry is in a state of virtual ruin. Imports claim more than 75% of the market. Employment has fallen by one-half since the late 1960s. Last year, more than 100 shoe plants closed their doors for good.

In asking for temporary help to cope with this very serious situation, the footwear industry did not push Congress for a special bill. Instead, it brought its case to the International Trade Commission, the independent bipartisan agency created to consider claims of serious injury from imports.

If Section 201 is not applicable to provide relief for the shoe industry, it is not applicable to any industry at all. It's a dead-end street. When the system is not allowed to work, when Section 201 relief is no longer available to affected industries, the result is that all of the action shifts from the legal structure to the Congress. Existing remedies are abandoned. Existing remedies are viewed as being of little or no use, and there is increasing pressure on Congress to take trade into its own hands on a sector by sector basis. And that is exactly what we are seeing in this country right now.

At the present time, there is no practical disincentive to Japanese protectionism except the volume of rhetoric turned up by the Congress. A controlled response as provided by international rules and by law is placed off limits by the administration. Therefore, uncontrolled rhetoric is all that remains. I think this is dangerous.

It is dangerous to the total relationship between the United States and one of its closest friends. For despite lively economic competition, we are close friends. We share common interests in a peaceful and prosperous world. We share a commitment to democratic government and free enterprise economics. It is hard to imagine a promising future for either country without the friendship and cooperation of the other.

Every time there is a vote in the Congress on a matter relating to trade with Japan, the claim is made that we are sending the Japanese a message. I am increasingly of the view that the Congress of the United States should not be in the business of sending messages to Japan. At best, messages which never lead to action are easily ignored. More seriously, messages sent in rage create long-term ill will. The role of

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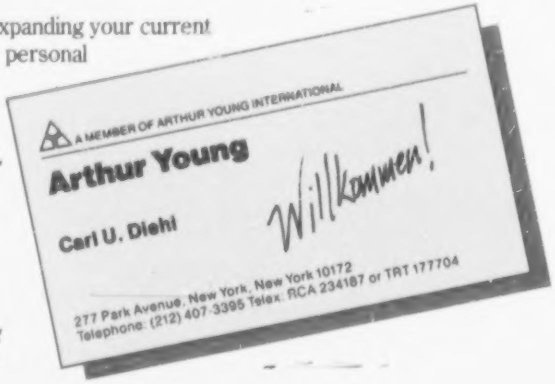

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Congress is to legislate, not to send messages to other countries.

In the long run, acquiescence to Japanese protectionism is no favor to either country. For both countries, and, indeed, the trading system itself are dependent on a strong American economy. America is no longer the dominant giant, towering over a struggling and self-protecting Japan. We no longer have the economic margins to tolerate the infant industry protectionism that brought about Japan's dominance in consumer electronics and automobiles. In no sector – such as computers and telecommunications – where the United States still maintains a competitive edge, can such Japanese protectionism be tolerated. There is no question that we are being hurt by Japan's trade practices, and when we are hurt, so is the rest of the world.

The 1984 Trade Act was an effort by Congress to find an effective way of removing unfair trade barriers without resorting to ideal messages or verbal abuse.

The 1984 Trade Act was an effort by Congress to find an effective way of removing unfair trade barriers without resorting to ideal messages or verbal abuse. Congress strengthened Section 301 of the 1974 act and created a systematic way of first identifying and then removing barriers to U.S. exports. In sum, the President was given added leverage to open markets which have been closed.

Nontariff barriers to trade multiply like mushrooms. They create a problem which can never be solved by inaction, which characterizes the administration, or by overreaction, which characterizes the Congress. The problem will only be solved by putting in place a system in which the President responds to barriers in a measured and practical way. The 1984 Trade Act was intended to create such a system.

No country in the free world can afford to see the trading system destroyed. But the system is doomed if it is not credible, and the only way to make it credible is to enforce our existing law, our existing rights.

III. Necessity of Decisive Steps to Remedy the International Trading System

Now to the third proposition: Congress should insist on clear plans for rectifying the exchange rate problem and for enforcing our rights under existing agreements as conditions for granting the President fast-track authority for implementing a new negotiating round.

To the administration, a new round of multilateral negotiations is the first priority in the trade area. To me, a new round of negotiations belongs somewhere farther down the list. Indeed, since trade agreements cannot deal with the bloated dollar, I do not see how they can improve the position of Americans trying to compete in world markets. Also, I do not understand the wisdom of negotiating rules of international trade if there is no intention of enforcing the rules we negotiate. I look forward to working with the Administration on trade legislation. I expect to introduce trade legislation in coming weeks to reform certain sections of trade law, including Sections 201 and 301, and welcome the Administration's comments on these and other proposals.

It would be unreasonable for Congress to ask the impossible. But if deficit reductions do not start the dollar on a steady decline, then we should be prepared to use other options to deal with exchange rates now and in the future. Now is the time to begin the careful study of those options should they later be needed. In addition, the President must implement the reciprocity title of the 1984 Trade Act, and put in place an ongoing mechanism for identifying and removing unfair barriers to American exports. These matters are far more important than a new round of negotiations.

Nearly every discusion of the trade deficit yields the comment that the problem is of our own making. It is said that we don't try hard enough – that we can't produce attractive products at competitive prices. I close by saying that I don't accept those comments for a moment. I don't accept the view that America is soft, and lazy, and over the hill. If we continue to compete, I believe we will succeed. In many key sectors, we can compete anywhere in the world, but only if the dollar is fairly priced and only if our trading partners are made to play by the rules.

Government cannot do everything in America, but there are some things it can do. It can get its economic house in order. It can enforce the law. It can give American producers a fair chance. And Congress must insist that we do so before another round of negotiations gets underway. ■

No country in the free world can afford to see the trading system destroyed. But the system is doomed if it is not credible. . .

I do not understand the wisdom of negotiating rules of international trade if there is no intention of enforcing the rules we negotiate.

DEUTSCHE ZUSAMMENFASSUNG

Eine kohaerente amerikanische Aussenhandelspolitik muss auf drei Voraussetzungen beruhen.

Voraussetzung I: Ein auf den Prinzipien des freien Welthandels beruhendes wirksames Weltwirtschaftssystem liegt sowohl im Interesse der Vereinigten Staaten wie auch der restlichen Welt.

Voraussetzung II: Das gegenwaertige Weltwirtschaftssystem funktioniert nicht und ist zum Scheitern verurteilt, falls es nicht repariert werden kann.

Voraussetzung III: Der amerikanische Kongress muss davon ueberzeugt werden, dass etwas unternommen wird, um das Weltwirtschaftssystem zu reparieren, bevor der Kongress dem Praesidenten Vollmacht fuer die Aushandlung eines neuen Weltwirtschaftssytems uebertraegt.

I: Es ist offensichtlich, dass das System des freien Welthandels im Interesse der Vereinigten Staaten liegt. Eine Rueckkehr zum Protektionismus wuerde ein Sechstel der Arbeitsplaetze gefaehrden, die heimische Landwirtschaft ruinieren und die Volkswirtschaften unserer Handelspartner zerstoeren. Die Forderung, dass die existierenden internationalen Handelsabkommen eingehalten werden, hat mit Protektionismus nichts zu tun. Paragraph 301 des Trade Act gibt dem Praesidenten die Macht, gegen unfaire Handelspraktiken vorzugehen.

II. Das gegenwaertige Weltwirtschaftssystem funktioniert nicht. Es wird von auslaendischen Staaten missbraucht, und die amerikanische Regierung hat es versaeumt, gegen Verletzungen der GATT-Grundsaetze einzuschreiten und Sanktionen zu verhaengen.

Als das GATT-System begruendet wurde, war nicht voraussehbar, dass sich das Aussenhandelsdefizit eines Staates auf $ 123 Milliarden belaufen wuerde. Resultierte das amerikanische Handelsdefizit frueher aus Einfuhren von Erdoel, Erdgas und anderen Rohstoffen, so ergibt es sich heute in erster Linie durch Importe von Fertigwaren. Die zwei wesentlichen Gruende fuer das Aussenhandelsdefizit liegen im System der freien Wechselkurse und in den nichttarifgebundenen Handelshemmnissen begruendet.

Die auf den amerikanischen Kapitalmaerkten erzielbaren hohen Zinsen und die Vorstellung, dass die Vereinigten Staaten einen sicheren Platz fuer Investitionen bieten, haben dazu gefuehrt, dass der US-Dollar verglichen mit seiner tatsaechlichen Kaufkraft 20 bis 50 Prozent ueberbewertet ist, was zur Folge hat, dass sich die amerikanischen Exporte in diesem Masse verteuert haben. Der hohe Dollarkurs wirkt somit im Ergebnis wie ein 20- bis 50-prozentiger Zoll auf amerikanische Ausfuhren.

Um das Problem des ueberbewerteten Dollars in den Griff zu bekommen, muss das Haushaltsdefizit verringert werden. Andere unkonventionelle Methoden sind nicht geeignet, eine vollstaendige Loesung des Problems herbeizufuehren. Da der amerikanische Kongress bis jetzt noch keine wirksamen Massnahmen ergriffen hat, ist die Regierung aufgerufen, groessere Anstrengungen zu unternehmen, um auf den Dollarkurs einzuwirken.

Abgesehen von der notwendigen Einwirkung auf den Dollar, muss gegen unfaire Handelshemmnisse vorgegangen werden. Protektionistisch eingestellte auslaendische Staaten diskriminieren nicht mehr in erster Linie durch die Verhaengung von Abwehrzoellen (was leicht verifiziert werden kann), sondern durch den Erlass diskriminierender Standards und Normen, buerokratische Verfuegungen, Verzoegerungen bei der Behandlung von Antragsverfahren und Investitionsbeschraenkungen.

Japan ist zwar nicht das einzige Land mit nichttarifmaessigen Handelshemmnissen. Es verfuegt aber ueber die zweitstaerkste Volkswirtschaft der Welt und profitiert in sehr starkem Masse von dem System des freien Welthandels, waehrend es andererseits am wenigsten dazu beitraegt. Die Appelle des amerikanischen Praesidenten an Japan sind angesichts der Tatsache, dass unsere Exporte nach Japan um 2 Prozent gestiegen sind bei einem gleichzeitigen Anstieg der Importe aus Japan um 38 Prozent, ohne durchschlagenden Erfolg geblieben. Paragraph 301 des Trade Act muss nun endlich gegen Importe aus Japan zur Anwendung gebracht werden, das gilt insbesondere im Bereich der Computer- und Telekommunikationsindustrie.

Die Regierung muss auch bereit sein, in Uebereinstimmung mit den GATT-Grundsaetzen Paragraph 201 des Trade Act zur Anwendung zu bringen, wenn es im Einzelfall darum geht, einer Notlage der heimischen Industrie abzuhelfen. Die Weigerung des Praesidenten, der leidenden amerikanischen Schuhindustrie gemaess Paragraph 201 des Trade Act zeitweilig Abhilfe zukommen zu lassen, demonstriert das Versagen der amerikanischen Handelspolitik und setzt den bestehenden Abwehrmechanismus ausser Kraft, was dazu fuehren wird, dass in Zukunft der Kongress einem noch groesseren Druck nach Erlass protektionistischer Gesetze ausgesetzt wird.

III: Der amerikanische Kongress muss darauf bestehen, dass Massnahmen ergriffen werden, mit dem Ziel, auf den ueberhoehten Dollar einzuwirken. Ausserdem muessen die Rechte, die die internationalen Handelsabkommen gewaehren, ausgeschoepft werden. Erst wenn dies geschehen ist, sollte der amerikanische Praesident ermaechtigt werden, an einer neuen GATT-Verhandlungsrunde mitzuwirken. Internationale Handelsabkommen allein sind nicht geeignet, das Problem des aufgeblaehten Dollar zu loesen. Auch nutzen sie wenig, wenn nicht die Absicht vorhanden ist, die ausgehandelten Regelungen zur Anwendung zu bringen.

Die Bereitschaft ist vorhanden, mit der Regierung an einer Reform der Handelsgesetzgebung, einschliesslich Paragraph 201 und 301 des Trade Act, mitzuarbeiten. Anregungen und Vorschlaege der Regierung werden willkommengeheissen.

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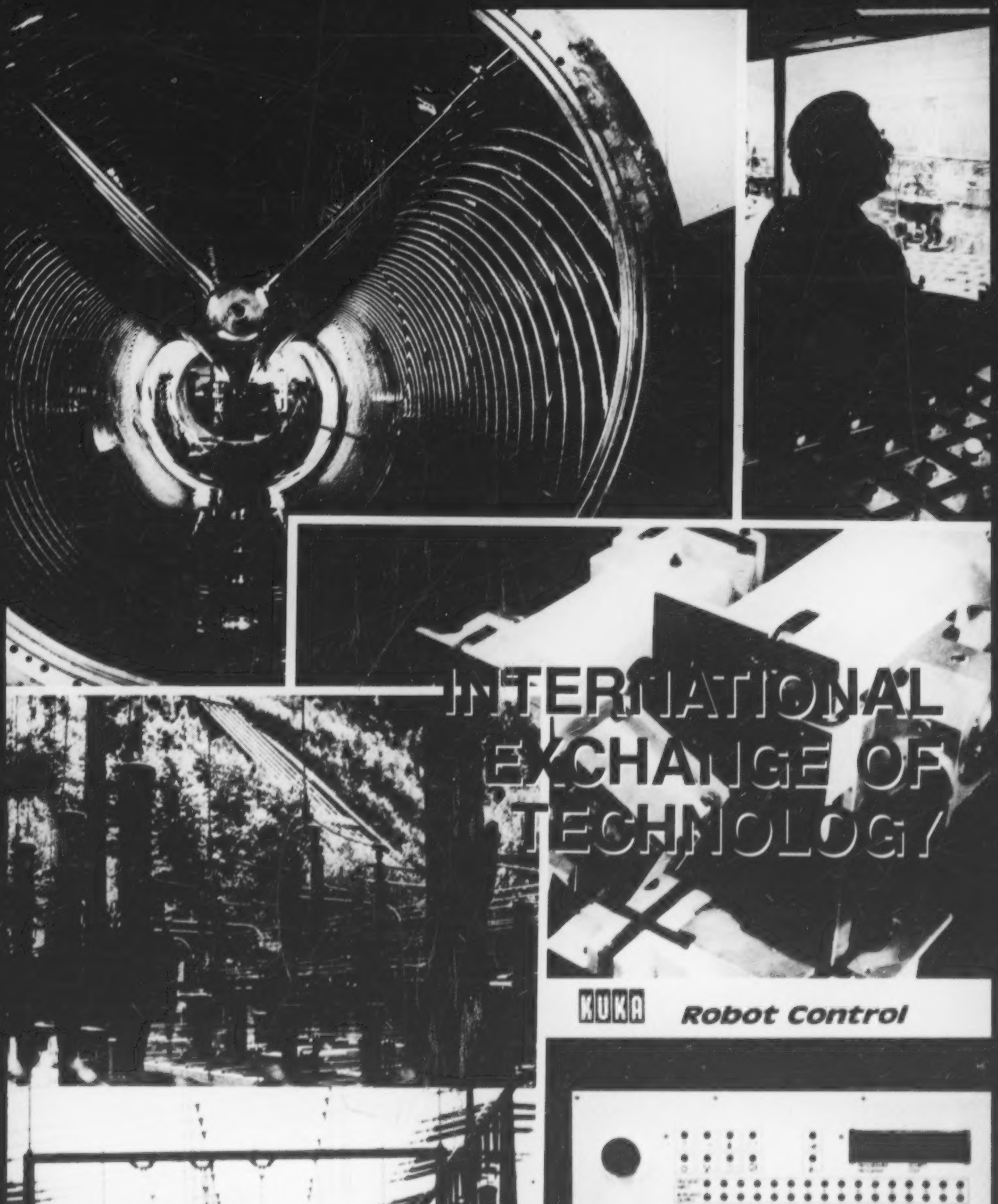
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The International Exchange of Technology and the Development of the World Economy

by Dr. Hans Joachim Langmann
President
BDI Association of German Industry

The Necessity of Technology Exchange and Research Cooperation

Like no other Western industrialized country, the Federal Republic of Germany is dependent upon an international division of labor. More than a third of its national product is earned on world markets. Accordingly, employment in the Federal Republic is influenced – directly and indirectly – by foreign trade. And as a purchaser of goods and services from foreign countries, the Federal Republic of Germany plays an extremely important role for the development of other economies: imports, amounting to 32% of the national product, are conspicuously higher in the Federal Republic than in the U.S. (12%) and even Japan (14%).

As a result of this strong dependence on the international division of labor, economic cycles and structural changes, such as the emergence of Japan and some East Asian threshold countries as capable suppliers of industrial products, upheavals on foreign exchange, energy and raw materials markets are felt more rapidly and strongly by the German industry than by more domestically oriented countries like the U.S. and Japan. The Federal Republic, as a country poor in natural resources but with a large population and high salaries, can maintain and expand its position in world trade only through persistent use of technological progress. German industry cannot afford to merely follow its competitors; instead, it must hold a leading position in the international competition for innovation. Only through process innovations which increase production while conserving resources and the environment, and production innovations which open up new markets, can jobs be made secure and new jobs created.

These challenges make necessary great efforts in the areas of research and development, increased exchange of technologies, and research cooperation with two goals: securing the international competitiveness of German industry *and* promotion of the growth of the world economy. Corporate strategies which can satisfy these requirements of course require – in an economically interdependent world – adequate national economic, finance, and currency policies – a "policy mix" which can bring national economic policy goals into harmony with the common interests of the world economy (avoidance of tensions and imbalances). Politicians have so far been oriented primarily toward conditions in their own election districts; enterprises operating worldwide are therefore called upon to make politicians aware of the needs and requirements of an optimal international division of labor.

The Federal Republic. . .can maintain and expand its position in world trade only through persistent use of technological progress.

International technological cooperation on board the Space Shuttle Challenger, 1985, which included two German scientists

The growing importance of research and development and the resulting product and production technologies have been taken into account by the Federal Republic of Germany through continuous expansion of its technological potential. In 1984 almost 50 billion marks were spent for research and development. Related to the national product (2.8%) or the population (over 800 DM per capita), the Federal Republic thus holds a leading position in this regard among the Western industrialized countries. About 60% of the German R & D budget is financed by business, a percentage which is also clearly above that in the U.S. or Japan. 70% of research and development are carried out by industry, significantly more than in Japan, but also significantly less than in the U.S., where the high spending for defense research plays an important role. The portion devoted to basic research (50%), which is high by international comparison, indicates the strong future orientation of the German research potential. In foreign and original patent applications – measurable output of research activities – the Federal Republic holds second place behind the U.S. and clearly ahead of Japan.

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Research and technology are not, however only objects of international competition, but also of international cooperation. That which has long been customary in the area of basic scientific research and an indispensable vital elixir for scientific progress, namely the sharing of research results within the scientific community, is also becoming increasingly important for the area of application-oriented research and development. The international exchange of technologies and cooperation between enterprises and research institutions are certainly not a new element in the international division of labor but are rapidly gaining momentum.

The need – indeed the obligation – to engage in stronger cooperation results, in part, from the technological developments themselves. The pace of technological progress has greatly accelerated. The product cycle, i.e. the period of time between market introduction and market saturation has drastically shortened for many industrial products. Enterprises must earn an ever larger portion of their returns with new products. In addition, technological developments have become increasingly complex. Many modern technologies are not the product of a single, narrowly defined scientific discipline, but are instead, as in microelectronics and biotechnology, the result of interdisciplinary cooperation among many sectors. In application, as well, many new technologies can be classified less and less within single business sectors; instead, they open up broad possibilities for applications in almost all areas of the economy. Microelectronics and biotechnologies are also examples here.

Enterprises must earn an ever larger portion of their returns with new products.

Increasing complexity and acceleration of technological progress have increased expenses and personnel requirements in research and development and also the accompanying technical and economic risks. The resources of individual enterprises, even large ones, and even of countries are often not sufficient. Space research is an example of this: only through a combination of the research potential of companies and research institutions beyond national and continental boundaries can the synergesic effects and critical masses necessary for such demanding tasks be achieved. In this regard, the avoidance of duplicate investments in research and development is only one element in the decision.

The resources of individual enterprises, even large ones, and even of countries are often not sufficient.

However, not only technological developments themselves, but also problems exceeding the boundaries of enterprises and countries, which can only be solved through the use of modern techniques, force increased cooperation. This can be well illustrated by the example of environmental research. Today, the choice is by no means "technology or environmental protection", but instead the only viable method is "environmental protection through technology". Stabilization in the sense of restricting impact on the environment to an acceptale level does not require less technological progress but – on the contrary – the persistent use of modern technologies. There are numerous examples: From recycling to reuse of production remnants and waste products to biological solutions for water pollution problems – to microelectronics, which can be described as a technology friendly to the environment on the production side as well as on the consumer side. It is necessary to harness technology to serve environmental protection and thus to further separate industrial production from harm to the environment – as with the success achieved in reducing the amount of energy used in relation to economic growth. Such decoupling can be achieved – at least in Europe – only jointly.

A further international problem where modern technology can contribute significantly is the growing scarcity of natural resources. The use of technologies which conserve energy and other resources is in the long term interest of all countries. Increased cooperation in research and development efforts is thus obviously needed. As an example, one can mention the developments in the area of ocean technologies.

A further international problem . . . is the growing scarcity of natural resources.

The need for stronger cooperation in research and development has, however, not yet been recognized to the same extent in all countries. The Western European countries, which in comparison to the U.S. and Japan have relatively small domestic markets, are dependent on combining their potential. Only by working jointly can Europe produce industrial and research structures which can survive in the long term in international technological competition. A comparison of orders of magnitude makes this clear: The U.S. market has a potential 240 million consumers, and even Japan has 120 million inhabitants. The Federal Republic of Germany, France, Great Britain, and Italy, however, each have only about 50-60 million consumers. A true European domestic market of over 320 million people would be significantly larger than the U.S. or the Japanese market.

The international exchange of technology and international cooperation in research and development are necessities not only in industrialized countries. The population, nutrition and debt problems in the countries of the Third World will force increased technological cooperation between industrialized and developing countries. The development of the Third World will provide unavoidable challenges for the industrialized countries. Science and technology offer indispensable instruments for the analysis of complex causes of foreign trade imbalances and growing foreign debt, and for the development of processes and products appropriate to the needs and conditions in developing countries as well as to their foreign trade situation.

The development of the Third World will provide unavoidable challenges for the industrialized countries.

Forms and Examples of Exchange of Technology and Research Cooperation

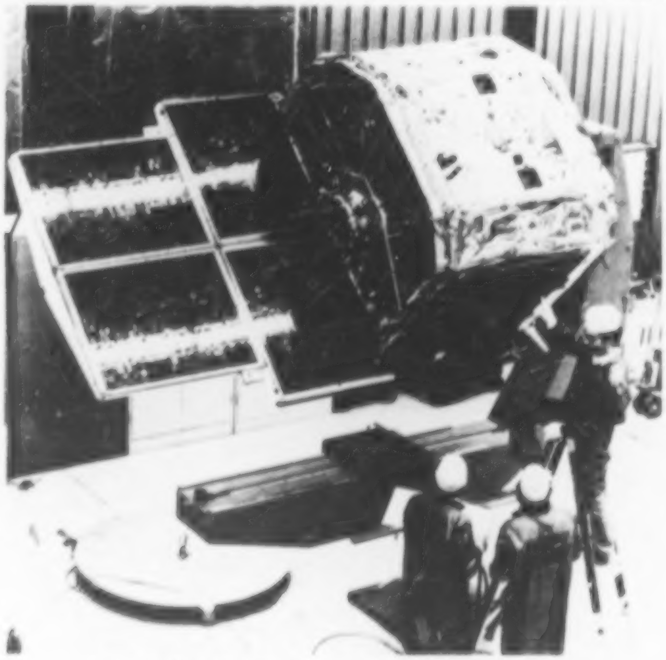
Exchange of technology and research cooperation manifest themselves in many forms: foreign trade – especially in technology-intensive products – direct investment, patent and license transactions, activities of international organizations and cooperation within the scope of projects and programs.

Based on volume, foreign trade is the major form of international exchange of technology. This year, world trade will reach a volume of more than 2 trillion dollars. Almost half is carried out among the Western industrialized countries. The Federal Republic of Germany, which has only about 1.5% of the world's population, provides about 10% of the world trade volume, and is thus – behind the U.S. and before Japan – the world's second largest trading nation. Based on trade in industrial goods, the Federal Republic is also in second place, slightly behind Japan but ahead of the U.S. About 50% of the Federal Republic's foreign trade is with countries within the European Community. Almost 6% of West German exports are in the areas of machinery, chemistry, electrical technology and motor vehicles. Especially important to the exchange of technology is trade in technology-intensive products. The technological content of products is an increasingly significant element in the success of German enterprises in world markets. More than one-

This year, world trade will reach a volume of more than 2 trillion dollars. Almost half is carried out among the Western industrialized countries.

An example of one branch which has devoted itself to a strategy of innovation is the German automobile industry.

third of German industry's export income is earned with technology-intensive products. The area of high-tech – here used in the sense of a group industrial sectors whose expenditures for research and development are at least twice that of the average for all industries – is now responsible for only about 5% of total production value, but the growth and employment dynamics in this sector are substantial. Even classic branches can be trumps on world markets when innovations in productivity are persistently used and the quality of products is continually improved. An example of one branch which has devoted itself to a strategy of innovation is the German automobile industry. Modern production technology combined with the highest product quality and attention to customers have created the success of this industry on world markets. Although they are counted among the classic exports by German industry, these areas can also be classified as "high tech."



European X-ray Satellite during measuring moment of inertia.

Another significant channel for the international exchange of technology is direct investment.

Another significant channel for the international exchange of technology is direct investment. Today, success on foreign markets can no longer be secured by means of export efforts alone, but instead – in order to be certain in the long term as well – often and to an increasing degree requires the establishment of local production facilities and the availability of complementary financial and trade services. German industry has recognized the growing necessity of direct investment. From 1978 to 1983, the cumulative value of direct investment in foreign countries by German enterprises has risen from 60 billion DM to 123 billion DM (not counting reinvestment on non-tranferred profits). The number of German foreign investors rose in the same time period from 4,000 to over 5,600. Following the export-intensive industrial branches – chemical, electrical, machinery and motor vehicle – the largest percentages of Germany direct investments are made by the service branches, credit institutions, and holding and investment management companies. Regionally, German direct investments are concentrated in European and North American industrialized countries. In contrast to Japan and the U.S., German business has so far participated relatively little in the rapidly growing markets of Southeast Asia. About 17% of German direct investments are in developing countries.

Another important medium for the international exchange of technology is the area of patents and licensing. The Federal Republic of Germany, like most other West European countries and Japan, traditionally shows a deficit in the exchange of patents and licenses. It would be too hasty, however, to conclude from this fact that there are weaknesses in technological competitiveness. By far the majority of costs for patents and licenses are paid by German subsidiaries to their foreign parent companies. In 1983 the Federal Republic of Germany spent about 3 billion DM for foreign patents and licenses. The corresponding income was about 1.5 billion DM. Among the countries which traditionally have a positive patent and license trade balance are Great Britain and the U.S. which achieved a surplus of over 18 billion DM in 1983. The largest licensor in the Federal Republic is the chemical industry, which takes in almost 40% of German income in this area. 85% of the Federal Republic's income and 99% of its expenses related to patents and licenses are the result of trade with Western industrialized countries.

The exchange of technology and research cooperation are also goals of international organizations and research institutions. The Federal Republic of Germany is, for example, a member of the European Space Administration (ESA), which is responsible for the Ariane rockets for Spacelab as well as for numerous satellite projects; the International Atomic Energy Organization (IAEO), OECD, UNESCO, and NATO (research in the area of defense).

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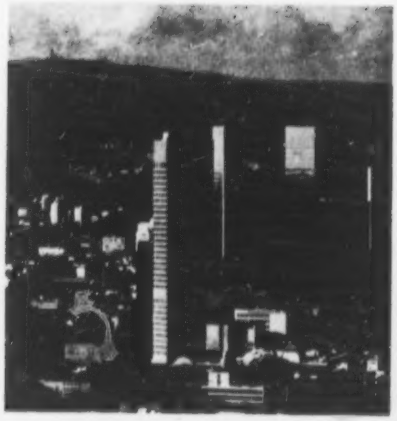

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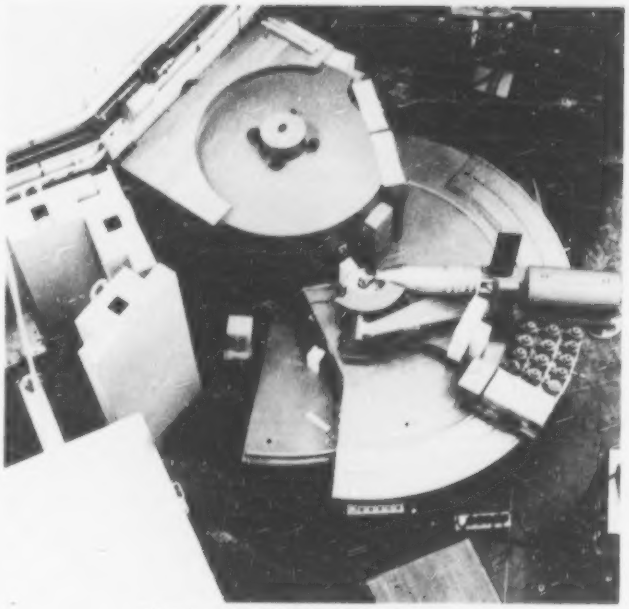
In addition, the Federal Republic participates in numerous international research institutions, such as the European Organization for Atomic Research (CERN), the European Molecular Biology Laboratory (EMBL), and the Joint Research Institute of the European Community (GFS). Furthermore, there are many bilateral agreements in effect between the Federal Republic of Germany and other countries – including many developing countries – relating to scientific and technological cooperation. Worthy of particular mention are the joint projects with the U.S., especially in the area of space research. The D1 mission of the European Spacelab is the latest successful example. Equally successful predecessors were the sun satellites Helios A and B and the Venus probe Pioneer. An important future project will be German participation in the American space station, Columbus. And there will perhaps be further opportunities for participation by German companies and research institutions within the scope of the American defense initiative SDI.



Atomic research underway in Germany.

. . .there will perhaps be further opportunities for participation by German companies and research institutions within the scope of the American defense initiative SDI.

Naturally, scientific and technological cooperation within the European Community play a dominant role for the Federal Republic of Germany. In addition to the previously mentioned memberships in European organizations and research institutes, Germany's strongest involvement is in the European Community's research and technology programs. Examples are the EC program for technological basic research in traditional industries (BRITE), the data processing technology program ESPRIT, the telecommunications program RACE and the Community's biotechnology program. Europe is hoping for an additional technological leap through the EUREKA initiative. At the second EUREKA conference on November 5 and 6, 1985, in Hanover, the foreign ministers and science ministers of the 18 participating member states of the European Community reached agreement on 10 joint projects. These include an agreement on the development of a super high speed computer, on photovoltaic production of electricity from amorphous silica, the development of high performance lasers and the establishment of a European research network.

Conditions for International Exchange of Technology

International competition is forcing companies to make constant efforts in the areas of research and development. Limited resources and the need for optimal use of scarce resources call for international cooperation – for the benefit of all the participants: the industrialized countries but above all the developing countries. Innovations in products and processes are dependent on an adequate scientific environment, international as well as national. New technologies, indispensable in furthering commercial growth and progress and the highest possible level of employment, and in conserving scarce resources and the environment, cannot be optimally used behind a defense of protectionist barriers. Instead, they require functioning, undisturbed world trade and sufficient legal protection. The developing countries are also gradually recognizing that transfer of technology cannot be had for nothing.

At the second EUREKA conference on November 5 and 6, 1985, in Hanover. . .18 participating member states of the European Community reached agreement on 10 joint projects.

On this basis, German industry strongly supports the efforts to bring about a new round of GATT negotiations for removal of barriers in world trade, and for promotion of international exchange of services, goods and technologies; in the latter case, sufficient protection of patents for products and production methods as well as protection against product counterfeiting are particularly important. Our striving for stronger international legal security and improved legal protection is experiencing increasing understanding and support among the authorities in developing countries; we in politics and business in the developing countries should further support and make use of this positive trend.

Protectionism does not solve any problems, but instead creates new ones. This old perception was reaffirmed in May 1985 in Bonn at the international trade summit meeting of the most powerful industrialized countries, after it had repeatedly been the key statement in communiques from OECD ministerial council meetings. The danger of a new relapse into protectionism has, however, by no means been banished, as shown by the trade policy discussions in the European Community, and particularly by the flood of protectionist bills introduced in the U.S. Congress.

The danger of a new relapse into protectionism has, however, by no means been banished. . .

Governments, labor unions and companies in Europe, the U.S. and Japan are now engaged in an often difficult learning process; they are seeking ways to reconcile their national goals and needs with the requirements of an interdependent worldwide commercial system. This is true concerning salaries and working conditions as well as government expenditure, tax and social policies. Mistakes in these areas, which result in budget deficits, subsidies, interest developments, exchange rate changes and poor earnings for companies, cannot be cured through protectionist measures; protectionism attacks only the symptoms of an illness and not its causes.

German industry applauds the efforts of the U.S. administration to demonstrate. . .that protectionist policy is the wrong choice.

Therefore, German industry applauds the efforts of the U.S. administration to demonstrate to Congressmen and Senators, business, and the American public the possibilities and the boundries of U.S. budget, business and currency policy in a "world of interdependence" and to make unmistakeably clear that protectionist policy is the wrong choice. The U.S. economy is becoming more integrated in the global economy. Our businesses, workers and various levels of government must increasingly take this fundamental fact into account.

Based on this realization, the Administration drew the following decisive conclusions in a White Paper of September 23, 1985: "The Administration will, for the benefit of our international trade as well as our overall domestic economy, vigorously seek to bring federal spending under control. The Congress and public must clearly recognize the adverse impact of excessive government spending and budget deficits on the dollar's value and U.S. trade. As Congress wishes to contribute to reducing the trade deficit, it should focus its energies on cutting excessive spending and budget deficits rather than supporting protectionist legislation."

D-1: The first German Space Lab Mission, 1985, on Space Shuttle "Challenger".

Taking into consideration the high debts carried by many developing countries, and to the extent that the U.S. takes seriously its special joint responsibility for trouble-free development of world trade, Japan and the countries of the European Community are also strongly called upon to maintain and further open their markets to the increasing supply of products from developing countries and to promote the transfer of technology; competition between industrialized countries should not stand in the way of necessary improvements in the legal environment for transfer of technology between industrialized and developing countries.

Problems in the Control of Technology Transfer

The availability of modern technologies is taking on increasing significance for the competitive capacity of national economies in an interdependent world. The employment of new product and production technologies is a constant process, which – where necessary – should be promoted by governments. The establishment of reliable conditions, in particular with

. . .there remains a joint vital interest in effective control of the transfer of militarily relevant technology in trade with the East.

regard to international cooperation, is an important task of governments.

For the sake of Western security, there remains a joint vital interest in effective control of the transfer of militarily relevant technology in trade with the East. For decades now, consensus arrangements have existed for controls under COCOM. The control lists were recently updated.

Problem: For reasons of national security *and* for foreign policy objectives, the United States implements more extensive controls and limitations. The general requirements of authorization for U.S. exports have an impact on the transfer of technology in West-West trade. By stipulations and extraterritorial controls, the United States wants to ensure that exports to a COCOM country do not end up in the East.

These different trade practices are used by political forces in the Federal Republic of Germany and other EC countries as a basis for accusing the U.S. of wanting to curb the transfer of technology between NATO partners for reasons of competition; derived from this is the demand that Europe must, by means of greater public spending, decouple itself technologically from the United States.

In this controversy, U.S. industry has clearly stated its own position. The "Report of the President's Commission on Industrial Competitiveness" of January 1985 contains details of this position under the heading "Export Controls: Balanced Policy Objectives" in vol. II entitled "Global Competition. The New Reality". Below is a summary:

U.S. industry itself complains of increasing sanctions and controls in its foreign trade and points out that since 1950 the share of exports in the United States' GNP has almost doubled to 7%, thus becoming a significant factor for the national economy. Due to the growing politicization of foreign trade, virtually only large companies are able to achieve success.

In view of the control procedure, U.S. industry feels:

- it has to bear a considerable financial burden and suffers disadvantages because of the length of proceedings
- its reliability is impaired in comparison with foreign countries
- the system is incomprehensible and inefficient, parts of it also being mutually incompatible.

Difficulties for Germany industry:

The 1985 Export Administration Amendments Act did not by any means make the U.S. system more comprehensible; another difficulty is posed by the discrepancies existing between multilaterally agreed transfer controls (COCOM list) and unilaterally employed procedures which also affect German companies if they engage in technological cooperation and intend to export goods (Commodity Control List – CCL, Militarily Critical Technologies List – MCTL, Militarily Significant Emerging Technologies Awareness List – METAL, etc.). This places a strain on cooperation established with U.S.A. companies and constitutes a Damoclean sword for German companies, since any contravention leads not only to punitive action (ban on receipt of U.S. technology), but also to the danger of all the company's exports to the U.S. being prohibited. There is also the difficulty that only part of the control lists are published or that an "internal", more extensive version exists alongside the official list (e.g. MCTL). Moreover, with the unilateral arrangements there is the problem of extraterritorial application of U.S. law. Like U.S. industry, we appeal for more effective, multilateral agreements in the interest of our common security (cf. COCOM) and for the avoidance of bureaucratic obstacles within the Western alliance.

Like U.S. industry, we appeal for more effective, multilateral agreements in the interest of our common security. . .and for the avoidance of bureaucratic obstacles. . .

A large amount of time is needed to obtain export or re-export permits (this is criticized by U.S. industry, too). It should be possible for permits for re-exports to Western countries to be issued by German agencies under an agreed system of administration; this would save time and lead to greater transparency. It is very much in German industry's own interest that German export control procedures be reliable.

The stormy developments of the past decade – the turnabout from oil scarcity to a (temporary?) oversupply on the energy markets, the slump in natural resource markets, the forced structural shift in industrialized countries (with high unemployment), budget deficits, and continuing currency policy turbulence and interest discrepancies – have provided previously unknown challenges for the business and finance policies of the largest industrialized countries, particularly in the area of reliability of promotion of modern technology. These challenges must be met for the benefit of all involved parties.

From the perspective of German industry, constant attention to growing worldwide interdependence in business, finance, social and currency policy and, especially, to the foreign trade policies of the most powerful industrialized countries – opening markets and keeping them open – are decisive requirements for policy in the interest of the welfare of all nations. ■

DEUTSCHE ZUSAMMENFASSUNG

Die Bundesrepublik Deutschland ist wie kein anderes westliches Industrieland in die internationale Arbeitsteilung eingebunden. Mehr als ein Drittel ihres Sozialproduktes erwirtschaftet sie auf den Weltmaerkten. Als rohstoffarmes, bevoelkerungsreiches und exportabhaengiges Hochlohnland kann die Bundesrepublik Deutschland ihre Position im Welthandel nur durch konsequente Nutzung des technischen Fortschritts erhalten und ausbauen.

Diese Herausforderung zwingt zu verstaerktem Austausch von Technologie und zur Forschungskooperation mit einer doppelten Zielsetzung: Sicherung der internationalen Wettbewerbsfaehigkeit der Industrie *und* Foerderung des Wachstums der Weltwirtschaft. Der wachsenden Bedeutung von Forschung, Entwicklung und daraus resultierenden Produkt- und Verfahrenstechnologien hat die Bundesrepublik Deutschland dadurch Rechnung getragen, dass sie ihr technologisches Potential kontinuierlich ausgebaut hat. Unter den westlichen Industrielaendern nimmt sie eine Fuehrungsposition ein.

Forschung und Technologie sind jedoch nicht nur Gegenstand internationaler Konkurrenz, sondern auch internationaler Kooperation. Das gilt fuer den Bereich der wissenschaftlichen Grundlagenforschung und im zunehmenden Masse auch in dem Bereich der anwendungsorientierten Forschung und Entwicklung.

Die Notwendigkeit zu verstaerkter Kooperation ergibt sich aus der Technologieentwicklung selbst. Der technische Fortschritt hat sich im Laufe der Zeit stark beschleunigt, und der Prokuktionszyklus, d.h. die Zeitspanne von der Markteinfuehrung bis zur Marktsaettigung, hat sich fuer viele Industriegueter drastisch verkuerzt.

Doch nicht nur die technologische Entwicklung selbst, sondern auch unternehmens- und laenderuebergreifende Probleme, die nur durch den Einsatz moderner Technik zu loesen sind, zwingen zu verstaerkter Zusammenarbeit. Dies gilt insbesondere fuer die Umweltforschung. Die Alternative lautet heute keineswegs "Technik oder Umweltschutz", sondern "Umweltschutz durch Technik". Das ist—zumindest in Europa—nur im Verbund zu erreichen. Nur im Verbund kann Europa Industrie- und Forschungsstrukturen hervorbringen, die auf Dauer im internationalen Technologie-Wettbewerb bestehen koennen.

Ein weiteres, laenderuebergreifendes Problem, zu dessen Loesung moderne Technologie entscheidend beitragen kann, ist die zunehmende Knappheit natuerlicher Resourcen. Der Einsatz energie- und resourcenschonender Techniken liegt im langfristigen Interesse aller Laender. Eine verstaerkte technologische Zusammenarbeit zwischen Industrie und Entwicklungslaendern ist deshalb naheliegend und angebracht.

Technologieaustausch und Forschungskooperation manifestieren sich in vielfaeltigen Formen. Der Aussenhandel ist vom Volumen her die herausragendste Form des internationalen Technologieaustauschs. Die deutsche Industrie erwirtschaftet ueber ein Drittel des Aussenhandels mit Guetern hoher oder gehobener Technologie.

Ein weiterer Transmissionskanal fuer den internationalen Technologieaustausch sind Direktinvestitionen. Erfolge auf auslaendischen Maerkten koennen heute nicht nur ueber Exportanstrengungen sichergestellt werden, sondern erfordern—um auch langfristig abgesichert zu sein—haeufig und in zunehmendem Masse die Errichtung von Produktionsanlagen und ein komplementaeres Angebot von Finanzierungs- und Handelsdienstleistungen vor Ort.

Ein wichtiges Medium des internationalen Technologieaustauschs ist der Patent- und Lizenzverkehr. Die Bundesrepublik Deutschland weist wie die meisten anderen westeuropaeischen Laender und Japan eine traditionell defizitaere Patent- und Lizenzbilanz auf. Es waere jedoch zumindest voreilig, aus dieser Tatsache auf Schwaechen der technologischen Wettbewerbsfaehigkeit zu schliessen. Denn der weitaus groesste Teil der deutschen Patent- und Lizenzausgaben wird von deutschen Tochtergesellschaften an ihre auslaendischen Muttergesellschaften geleistet.

Technologieaustausch und Forschungskooperation sind auch Gegenstand verschiedener internationaler Organisationen und Forschungseinrichtungen, bei denen die Bundesrepublik Deutschland Mitglied ist. Naturgemaess spielt die wissenschaftlich-technologische Zusammenarbeit innerhalb der Europaeischen Gemeinschaft eine herausragende Rolle.

Der internationale Wettbewerb zwingt Unternehmen und Regierungen zu fortdauernden Anstrengungen in den Bereichen Forschung und Entwicklung. Die deutsche Industrie unterstuetzt deshalb nachdruecklich die Bemuehungen um das Zustandekommen einer neuen Verhandlungsrunde im Rahmen des GATT zum Abbau von Hemmnissen im Welthandel, fuer die Foerderung des internationalen Austauschs von Dienstleistungen, Waren und Technologien.

In dem Masse, in dem die USA ihre besondere Mitverantwortung fuer eine stoerungsfreie Entwicklung des Welthandels unter Beruecksichtigung der hohen Verschuldung vieler Entwicklungslaender ernst nehmen, sind auch die Laender der EG im besonderen Masse zur Offenhaltung und weiteren Oeffnung ihrer Maerkte fuer das wachsende Angebot der Entwicklungslaender und zur Foerderung des Technologie-Transfer aufgerufen. Der Wettbewerb zwischen Industrielaendern sollte dabei die notwendige Verbesserung der rechtlichen Rahmenbedingungen fuer den Technologie-Transfer zwischen Industrielaendern und Entwicklungslaendern nicht beeintraechtigen.

Im Interesse der Sicherheit des Westens besteht unveraendert ein gemeinsames vitales Interesse an effizienter Kontrolle des Transfers militaerisch-strategisch relevanter Technologien im Ost-West-Handel. Seit Jahrzehnten bestehen Consensus-Regelungen fuer Kontrollen im Rahmen des COCOM. Kontroll-Listen wurden juengst aktualisiert.

Darueber hinaus haben die USA Kontrollen/Beschraenkungen aus Gruenden der natinalen Sicherheit *und* fuer aussenpolitische Zwecke verfuegt. Der steigende Sanktions- und Kontrollaufwand im Rahmen der Auslandsbeziehungen wird von der US-Industrie beklagt und fuehrt zu Schwierigkeiten fuer die deutsche Wirtschaft. Der Export Administration Amendments Act of 1985 hat die Undurchsichtigkeit des US-Systems keineswegs vermindert. Die bewaehrte Zusammenarbeit mit US-Firmen ist dadurch belastet.

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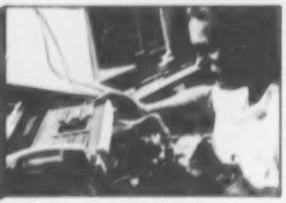

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International Trade in Technology and Western Security

by Richard N. Perle
Assistant Secretary of Defense
for International
Security Policy

The United States and the Federal Republic have a common commitment to an expanding world economy based on free international trade. Both our societies are highly productive, free market economies whose prosperity rests increasingly on trade with other nations.

This is particularly true in the case of high technology. In the United States, one association of exporters estimates that computer and business equipment exports rose by 24 percent from 1983 to 1984 – from $12.7 billion to $15.8 billion. Imports increased by 60 percent – from $6.9 billion to $11 billion. U.S. firms in such sectors contribute substantially to the strength of our nation's international trading position at a time when the United States faces balance of trade problems. Germans also look to their high technology companies to help Germany retain its trading position in an increasingly competitive and sophisticated world market.

. . .this situation leads to sensitivity about any type of controls on export of technology.

Naturally, this situation leads to sensitivity about any type of controls on export of technology. Some misunderstandings have occurred between our two countries in this regard. Let me address these problems directly and then explain the purpose behind United States export controls and those maintained jointly by Germany, the United States and our allies.

In Europe there has been talk recently of a European "high technology gap" by comparison with the United States and Japan. Some European organizations have accused the United States of "high tech protectionism" because of American controls on the re-export of U.S. technology. There have even been suggestions that U.S. export control policy represents collusion between the U.S. Government and U.S. exporters to defeat foreign commercial competitors. Some leading European newspapers and journals have repeated such charges uncritically.

In fact, the United States has imposed controls on re-exports of American technology for reasons of national security rather than for economic reasons. Anyone who follows Congressional hearings on the Export Administration Act realizes that many American exporters criticize the Government for imposing too many controls. U.S. firms deny that they need any protection against foreign competition, so long as that competition follows the rules of free trade. These firms believe that the United States restricts them more, and protects them less, than do the governments of their European and Japanese competitors. They are sure that they

. . .many American exporters criticize the Government for imposing too many controls.

The Space Shuttle "Enterprise" with "Piggyback" arrival on a modified Boeing-747 at the Cologne-Bonn airport.

could outsell European firms in any market in the world if there were no export controls imposed by any nation, or if U.S. controls were exactly the same as those of our commercial competitors.

So I urge you to be skeptical when you hear charges of how U.S. export control policies are harming European trade and industry. There may be a tendency to blame the United States for trade and economic problems that common sense and basic economics tell us are rooted in European institutional arrangements and policy decisions.

Surely American export control policies could not, even at their most effective, have more than a marginal effect on the prosperity and trade of the European Economic Community or its member nations. Are these policies at times merely convenient scapegoats for a European failure to deal effectively with fundamental economic problems that are politically painful to address?

Let us now turn to the reasons why the United States, and its allies, impose these export controls. I believe that you will see that the reasons are strategic and military, but the implications are also economic. Export controls will save our government and our taxpayers far more in defense spending than they cost in loss of exports.

We all recognize that America, Germany and our allies in NATO face a long-term political and strategic competition with the Soviet Union. In that competition, the West can only offset Soviet political and military pressures by maintaining our technological superiority.

This technological competition with the Soviet bloc is the reason why we must place some controls on the export of our products.

We cannot match our Russian adversaries numerically, soldier for soldier, tank for tank or fighter aircraft for fighter aircraft. But we can use the technological edge provided by Western industry to offset their huge numbers. In scores of programs – weapons systems, communications, intelligence and warning – Western high technology lets us counter the brawn of the massive Soviet military machine with the brains and organizing ability of Western businessmen, scientists and engineers. If we do not maintain that edge, we will see a continually deteriorating military balance. And if that happens, the Soviets will gain the fruits of war without having to fight a war.

Germans are well aware of this from recent events in the Federal Republic. The United States and Germany held fast to the NATO plan to deploy intermediate range nuclear weapons, despite opposition from well-meaning but misinformed citizens. If the West had not pursued this deployment, we would have left the Soviet SS-20 as the only modern "Eurostrategic" weapon on the continent. That would have given the USSR major leverage over the European nations in a future crisis.

This technological competition with the Soviet bloc is the reason why we must place some controls on the export of our products. For we in the West have an Achilles' heel. The same openness and competition that creates our economic and military strength makes strategic technology too readily available to our adversaries. At home and abroad, we sell "dual-use" technologies, like computers and microelectronics, that have military as well as civilian applications. We publish results of scientific and technical research that unwittingly can aid Soviet research for application to military programs. We invite Soviet specialists to inspect our factories and laboratories without thinking that the Soviet system dictates that any knowledge these visitors gain will immediately be put to the service not of detente, but of Soviet military power.

The Western nations recognized this problem soon after the end of World War II. At the same time that we were establishing NATO, we formed COCOM – the Coordinating Committee for Multilateral Export Controls. This organization has come to include all NATO members except Iceland and Spain, and also includes Japan. COCOM maintains selective controls on dual-use technologies and revises its control list periodically.

During the 1970s COCOM controls were relaxed considerably because of the widespread hope that greater East-West trade would ease political tensions as well as provide a market for Western goods. According to one estimate, the total number of requests for "exceptions" to the COCOM embargo rose from 124 in 1962 to 544 in 1970, 1,085 in 1972 and fluctuated between 1,000 and as high as 1,800 in the period 1972-1978.

The United States was no more farsighted in this regard than any of our allies. American requests for exceptions as a share of total requests for exception rose from 2 percent in the early 1960s to 25 percent in 1970, 41 percent in 1973 and 63 percent in 1978. These requests were primarily for computers. Moreover, the United States government approved major COCOM decisions like one to approve the sale of integrated circuit manufacturing equipment and technology to Poland despite warnings by a major IC manufacturer that this would transfer militarily important technology to the Warsaw Pact. Such decisions demoralized export control officials in the United States and allied countries. They seemed to indicate that national defense no longer counted in decisions on selling technology abroad.

> **This availability of advanced Western technology could not have come at a better time for the Soviet Union.**

This availability of advanced Western technology could not have come at a better time for the Soviet Union. The rate of Soviet economic

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growth was declining steadily from the 1960s through the early 1980s. Yet the USSR wished to continue increasing its military spending at a constant annual rate. The availability of Western technology allowed the USSR to save large amounts in research and development and hence to avoid many difficult choices in allocating resources in a stagnating economy.

Given this windfall, the USSR strengthened its already existing organization for acquiring Western technology by any means possible.

At present Soviet intelligence services assign several thousand agents to collect Western technology throughout the world. These agents work under covers ranging from diplomat to journalist to trade official.

Soviet trade organizations within the Ministry of Foreign Trade seek out sensitive Western technology at trade fairs and through contacts with individual firms. They also work closely with the intelligence agencies in arranging illegal trade diversions.

The Soviet Academy of Sciences keeps track of Western scientific and technological developments of military importance. It also sends scientists who work for military research institutes on exchange programs to European, Japanese and American universities and industrial firms.

The results of this massive effort have been impressive for the Soviet Union, very harmful to the West.

Over the last decade, the Soviet Union has acquired defense-critical Western technology in such fields as: computers, radar, inertial guidance systems, lasers, metallurgy, machine tools, integrated circuits, robotics, superplastic materials and electronics quality silicon. The USSR has built its own microelectronics industry, almost entirely with design and production-line technology acquired in the West.

Some startling facts about this Soviet program emerge from a report recently released by Secretary of Defense Weinberger. This report, *Soviet Acquisition of Western Technology: An Update*, notes that the Soviet Union uses Western technology in over 5,000 military research and development projects *in a single year*.

Specific Soviet acquisitions have had dramatic military implications.

In the early 1970s, the Soviet Union legally purchased more than 150 precision grinding machines for use in producing small, close tolerance bearings from an American company. They used these bearings to improve the inertial guidance systems of their intercontinental range ballistic missiles (ICBMs). The increased ICBM accuracy has threatened Minuteman' survivability, undercut strategic arms control negotiations and added the cost of MX missiles to the U.S. defense budget.

Other legal and illegal acquisitions have given the USSR the technical data for the look-down, shoot-down radar on the US F-15 fighter, the most advanced NATO air defense fighter; highly sophisticated laser mirrors that have helped the Soviet Union maintain its lead over the United States in several ballistic missile defense and antisatellite capabilities; and two huge dry docks that serve Soviet aircraft carriers designed for use against NATO's sea lines of communication and for projecting Soviet military power in the Third World.

In April 1985, *Le Monde* published confidential Soviet documents obtained by French intelligence which gave some insight into what the Soviets think they gain by such acquisitions. A document that summarized the record of the Ministry of the Aviation Industry for only one year (1979) stated that technical information from the West saved more than $50 million in research, development and testing.

The present Soviet focus is heavily on gaining Western microelectronics manufacturing technology. Recently, the Soviet Union came close to diverting an ion implanter through Luxembourg. This commodity is necessary to the manufacture of very high speed integrated circuits. It is embargoed by COCOM. The ion implanter had been diverted from France and

These individual acquisitions have, added up, very serious political and military implications for the Western alliance.

Atomic reactor on its way to Sweden from the Ruhr.

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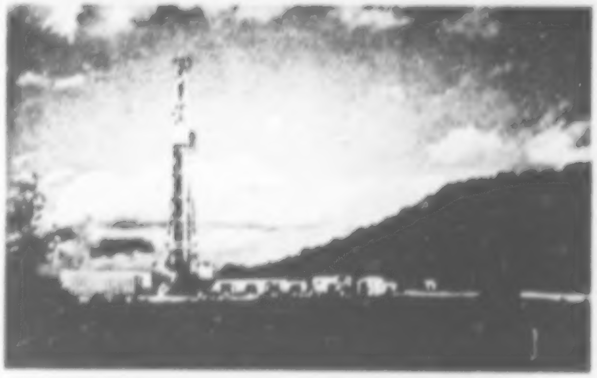
- construction services.

The international part of the Preussag business was of increasing importance during recent years. A breakthrough was the acquisition of a major shareholding in Amalgamated Metal Corp. PLC, (AMC), London, which enabled Preussag to obtain access to the trading on the London Metal Exchange and to offer worldwide services in non-ferrous metal trading besides AMC's interests in tin mining, tin smelting and other activities.

Sales of the Preussag Group (world) in 1984 totalled DM 13,7 billion, the number of persons employed was 20,181 and a dividend of DM 72 million was payed on the share capital of DM 400 million.

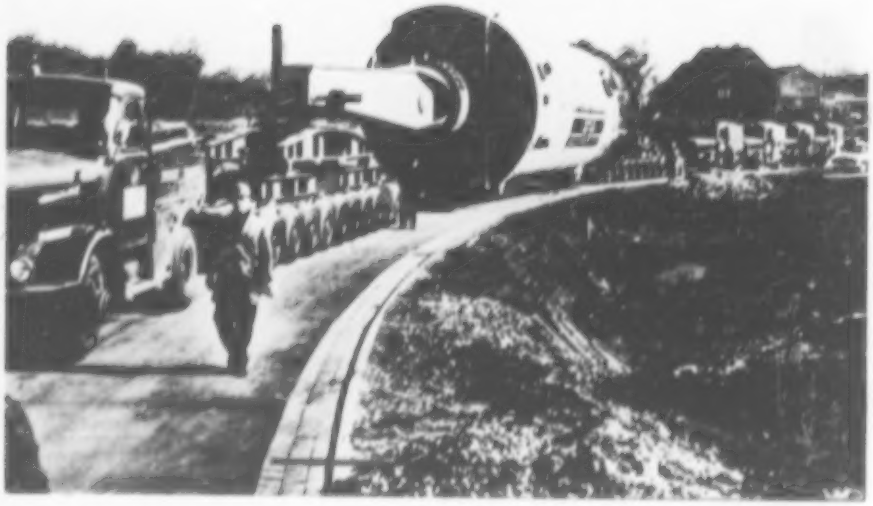


1 Shovel loader picking up loose rock at the Preussag Rammelsberg ore mine
2 "VTG GAS 73" on the River Rhine
Vessel for the transport of pressurized gases
3 Sinking an exploration well in Crockett County, West Texas
4 Water treatment and purification construction, located in Iraq, Preussag Aquatech Compact SAO 2

Preussag AG · Leibnizufer 9 · 3000 Hannover · Germany was about to be loaded onto an Aeroflot aircraft for the USSR when it was seized by Luxembourg authorities.

These individual acquisitions have, added up, very serious political and military implications for the Western alliance.

The Soviet Union and its allies have cut the technology gap with NATO dramatically. The USSR now deploys tanks, artillery, attack helicopters, ICBMs and nuclear attack submarines that equal those of any of the NATO allies in terms of embedded technology. The Soviets are cutting the U.S. and European qualitative lead in deployed weapon systems like fighter/attack aircraft, precision-guided munitions, anti-submarine warfare, surface combatant ships, and submarine-launched ballistic missiles. Department of Defense studies show that the Warsaw Pact forces in the Central Region of Europe have improved their potential combat effectiveness by more than 90 percent from 1965 to the present, while NATO forces have improved theirs by less than 40 percent.



This technological surge increases Soviet capabilities for a rapid offensive attack on Europe. Improvements in tanks, self-propelled artillery, attack helicopters, and heavy lift vehicles support a *blitzkrieg* ground force strategy against NATO. Moreover, the present generation of Soviet tactical aircraft is designed and equipped for offensive operations. These capabilities fit Soviet military doctrine, which calls for a rapid ground/air advance into Western Europe. In modern arms control terms, we call such a situation "destabilizing." This destabilizing military situation underlines the need to pursue the NATO policy of force modernization combined with arms reductions – real reductions, not cosmetic ones.

How has the United States addressed this problem?

When the Reagan Administration came to office in 1981 and began to look at the system of export controls, we found a very distressing situation. First of all, we found an administrative and bureaucratic ineptitude that had justly earned the contempt of the American businessman. It was characteristic that the system had lost files, had made capricious decisions, and could not track the status of license requests. It was understaffed, overworked, and undermanaged, and generally handled with appalling inefficiency.

In 1981, when the Reagan Administration came in, there was not a single computer dedicated to the purpose of administering the system of export controls in the United States. This in spite of the fact that the government was dealing with over 120,000 license applications a year. These applications were dealt with in hard copy, with couriers taking them back and forth. The average time it took to

For our part, we are giving better service to the export community. . . . We now have an electronic bulletin board in the Department of Defense . . .

process a case was never less than 90 days, and often closer to six months to a year.

We have tried to improve this situation, and I think we have made some considerable strides. We now have computers in a variety of roles: tracking license requests, tracking intelligence about known diverters, "alert list" monitoring computers programmed to pay special attention to technologies known to be high on the Soviet priority list. It is the job of this last section to detect anomalies that occur. Here is one anomaly. Eighty-seven helicopters manufactured by Hughes Helicopters wind up in North Korea. These eighty-seven helicopters are externally identical to the military helicopters operated by South Korean forces. The result of this, of course, is that South Korea has to send its own helicopters away from the demilitarized zone in order to be sure that any helicopter seen flying in or south of the DMZ is hostile. The appropriate officials at Hughes believed they were selling the helicopters to a West German middleman, who said he was selling them, in turn, to an unidentified African country which intended to use them for oil exploration. A wildly implausible story, and yet no license was required in this case, and approvals were given up and down the line.

Henceforth, this sort of anomaly should take place with far less frequency. We are now in a position to bring together the information we have about Soviet operations and requests for applications. At least insofar as Soviet acquisitions have been based on commercial acquisitions, we are both (private and public sector) doing a better job of controlling Soviet acquisitions. For our part, we are giving better service to the export community. They now can depend on predictable results to their inquiries, furnished in record time. We now have an electronic bulletin board in the Department of Defense so that any exporter who has a license request pending for review by the Department can, through a computer link, obtain an instant status report. This was unheard of a year or two ago. We have also greatly increased the number of people in the Department of Defense who are working on this project. When I acquired this responsibility, there was only a handful of people – you could get them all around one end of a table. We now have 110 people involved in the administration of export controls. With a little luck, this number will increase to the point where we will be able to do a competent job expeditiously.

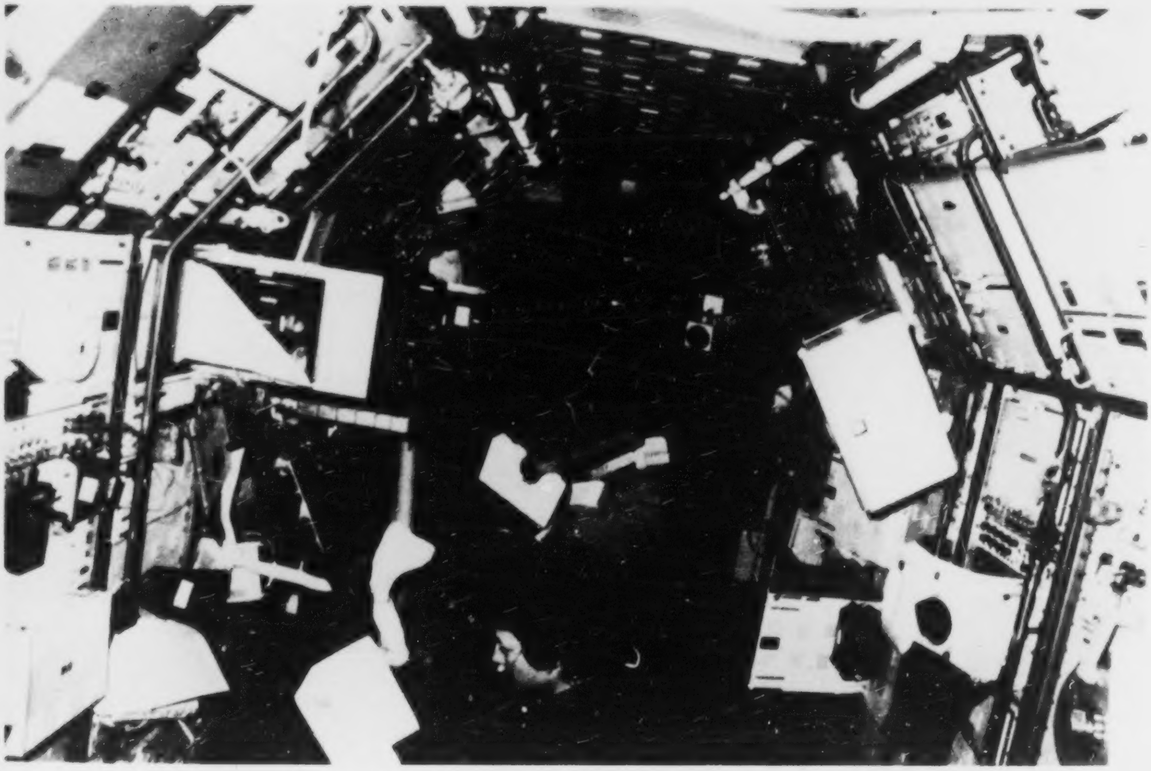
Other departments of the government have been challenged by the energy shown in this area by the Administration, and they too have adopted administrative management reforms. As a result, we are now in a position to implement a policy with which there has been little disagreement. I have discovered, as I travel around the country and to various Allied capitals, that the biggest single complaint about the Western system of export controls is *not* the principle of denying to our enemies the means with which to magnify the threat they have imposed upon us. It is instead that this principle is meted out with such a cumbersome and inept administrative system. We have worked hard to gain the confidence of the business community. Without their support, it would be pointless to administer any system, regardless of its principles. By improving our own administration, I believe we have regained their confidence.

Let me conclude where we began – with the relations between the United States and allies like Germany. Three or four years ago, COCOM had an annual operating budget of half a million dollars. Three years ago, COCOM had what must have been the last hand-cranked mimeograph machine in Western Europe. The staff was not sufficient for simultaneous translation so it took twice as long to do everything (since the French insisted that everything be done in both French and English). It was an antiquated institution, if ever there was one.

This Administration, which is not noted for its endorsement of big bureaucracies, has nevertheless been trying to strengthen this miniscule bureaucracy in Paris, and not without result. We have added staff and have begun to professionalize the institution. We now communicate with COCOM by electronic means, instead of sending couriers over and back and spending two or three weeks in the process.

Our Allies have begun to take the problem far more seriously than they had before.

Our Allies have begun to take the problem far more seriously than they had before. They have always agreed, in principle, that it makes little sense to make available to the Soviet Union those technologies that could be identified as militarily sensitive. They seldom agreed, however, on the details presented by this issue because they lacked the knowledge and expertise in their own governmental structures that would, in the end, lead them to the same sorts of conclusions at which we have already arrived. We have, therefore, encouraged our Allies and they have responded. If you now go to London, you will find there a technology transfer unit in the Ministry of Defense that did not exist as recently as a year ago. There are 15 or 18 people busy at work there. The same thing is happening in Paris and in other capitals in Europe, with the result, in my view,



German Space Lab Mission, D-1, on Space Shuttle "Challenger"

that the much exaggerated tension between the United States and its Western European allies on this issue is gradually dissipating through the continuing dialogue we now have, and through the information we are able to share with the Allies in this context.

Our Allies (as we) have been struck by the extent to which the Soviets have been successful predators, siphoning off their technology. The departure from France of 47 Soviet intelligence agents in 1984, and of 31 such agents from the U.K. in mid-1985 (as well as similar departures from virtually every country in Europe) suggests that our Allies are finally coming to grips with the problem of technological espionage.

Thus, the Western alliance has regained much of the sense of common purpose that initially brought our nations together a third of a century ago. We are reaching agreement on how to preserve the technological superiority needed for our military security while encouraging the international trade in technology necessary for our economic growth. If the United States and the Federal Republic continue to cooperate in this work, we can contribute to a goal that is worthy of both our countries. That is the security and prosperity of the Free World as a whole. ■

We are reaching agreement on how to preserve the technological superiority needed for our military security while encouraging the international trade. . .

DEUTSCHE ZUSAMMENFASSUNG

Sowohl in den Vereinigten Staaten wie auch in der Bundesrepublik Deutschland spielt die Ausfuhr von Technologien eine grosse Rolle. Deshalb ist die Beschraenkung des Hochtechnologie-Transfers ein heikles Thema, das zwischen den beiden Staaten in der Vergangenheit zu Missverstaendnissen gefuehrt hat, die der Aufklaerung beduerfen.

In Europa ist von einer Hochtechnologie-Luecke (high technology gap) die Rede, und in den Medien weden die Vereinigten Staaten sogar vereinzelt unkritisch verdaechtigt, sie betrieben "Technologie-Protektionismus" (high-tech protectionism) mit der Absicht, die europaeische Konkurrenz zu vernichten.

Das ist unzutreffend. Die Technologie-Exportkontrollen wurden nicht aus wirtschaftlichen Gruenden ergriffen, und die wirtschaftlichen Probleme haben auch nichts mit den Exportbeschraenkungen zu tun. Denn die bestehenden Exportkontrollen haben auf die europaeische Industrie und den Handel nur geringfuegige Auswirkungen.

Die Hochtechnologie-Exportbeschraenkungen wurden vielmehr im Interresse der nationalen Sicherheit verhaengt. Die Vereinigten Staaten und ihre Verbuendeten befinden sich in einem langen politischen und strategischen Wettbewerb mit der Sowjetunion, den sie nur bestehen koennen, wenn es ihnen gelingt, ihre technologische Ueberlegenheit zu behaupten.

Der Westen kann dem russischen Gegner zahlenmaessig zwar nicht Paroli bieten. Er ist ihm aber im technologischen Bereich was Waffenprogramme, Kommunikationstechnik und Elektronik anbelangt ueberlegen, und diese Ueberlegenheit muss behauptet werden. Das ist der Grund, weswegen im Hochtechnologiebereich Beschraenkungen notwendig sind. Denn der Westen hat eine verwundbare Achillessehne. Die Offenheit und die freie Konkurrenz, die in unserem System die Leistungen garantiert, bietet gleichzeitig Gelegenheit, dass neue Technologien dem Gegner zugaenglich werden. Das gilt insbesondere fuer diejenigen Technologien mit doppeltem Verwendungszweck (dual use technologies), d.h. solche, die sowohl nichtmilitaerischen wie militaerischen Zwecken dienen koennen.

Dieses Dilemma wurde schon kurz nach dem zweiten Weltkrieg erkannt und gleichzeitig mit der NATO wurde das COCOM—Coordinating Committee for Multilaterial Export Controls—gegruendet, eine Organisation, der mit Ausnahme von Island und Spanien alle NATO-Staaten sowie Japan angehoeren. COCOM fuehrt eine Liste sensitiver Technologien mit doppeltem Verwendungszweck.

Die COCOM-Kontrolle wurde im Laufe der siebziger Jahre vergleichsweise lax gehandhabt und Ausnahmen immer haeufiger erteilt, wodurch sich die Auffassung verbreitete, bei Ausfuhrbeschraenkungen spielten Gruende der nationalen Sicherheit keine Rolle mehr.

Der Zugang zu westlichen Technologien kam fuer die Sowjetunion gerade recht und ersparte ihr in der Zeit abnehmenden Wirtschaftswachstums kostspielige Aufwendungen fuer die Forschung und Entwicklung von Hochtechnologie-Produkten. Die Auswirkungen sind erheblich und fuer den Westen aeusserst nachteilhaft. Nach einer juengsten Studie des amerikanischen Verteidigungsministeriums verwendet die Sowjetunion in einem einzigen Jahr westliche Technologien bei ueber 5.000 militaerischen Projekten. Die Ersparnisse der Sowjetunion werden auf ueber $50 Millionen geschaetzt.

Der Sowjetunion and ihren Verbuendeten ist es gelungen, den technologischen Abstand zum Westen zu verringern; das gilt fuer Ueberschallflugzeuge, Lenkwaffen, U-Boot-Bekaempfung und U-Boot-Raketen sowie die Marine. Dadurch hat sich die Gefahr einer Destabilisierung Westeuropas erhoeht.

Seit dem Amtsantritt von Praesident Reagan wurde die Buerokratie in der Exportueberwachung abgebaut, die Lizenzantraege computermaessig erfasst und das Personal fuer die Ueberwachung der Technologie-Exporte erhoeht. Die anderen Mitgliedstaaten haben die Probleme ebenfalls erkannt und ihrerseits eine Ueberwachung von Hochtechnologie-Transfers eingerichtet. Das gemeinsame Anliegen, in das die westliche Alianz zusammengeschweisst hat, ist heute wieder klarer zum Bewusstsein gekommen. Wir sind dabei, zu einer Vereinbarung zu gelangen, wie die nationale Sicherheit garantiert werden kann bei gleichzeitiger Erhaltung des internationalen Handels im Technologie-Bereich. Die Vereinigten Staaten und die Bundesrepublik Deutschland werden ihren Beitrag dazu leisten und in diesem sicherheitssensiblen Bereich auch weiterhin zusammenarbeiten.

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The International Debt Problem and the Banks

by Dr. Alfred Herrhausen
Chairman of the Board of Directors
Deutsche Bank AG
Frankfurt a.M.

In the current decade, the international debt problem is one of the great challenges to global cooperation both at the governmental level and for the business community, particularly the commercial banks.

At this juncture, a total of about 60 countries, mostly developing nations and some Eastern bloc countries, have agreed to or applied for debt reschedulings or have, de facto, substantial payment arrears. The total official and private foreign debt of these countries at the end of 1984 was running at $550 billion. Of that sum, about $300 billion, or more than half, was owed to commercial banks. In the case of the large debtor countries, the banks' share is even higher: it amounts to some 75 percent for each of Mexico and Brazil and to two-thirds, on average, for the ten biggest debtors among the rescheduling countries.

The German banks, like their counterparts in other major trading nations, have been noticeably affected by the payments and financing problems in the Third World and in the Eastern bloc. Their combined exposure in the troubled debtor countries (including that of their foreign branches and subsidiaries) accounts, on average, for some 7 per cent of aggregate bank claims on these countries, according to the Bank for International Settlements (BIS).

The origins of the precarious international debt situation and the heavy involvement of the banks, which is a novel feature in the history of sovereign debt crises, date back to the early seventies when the first oil price hike of 1973/74 resulted in a massive international redistribution of income and huge payments imbalances. The high surpluses achieved by the oil-exporting countries were largely placed with international banks which, in turn, accommodated the substantial funding requirements of oil-importing developing and industrial countries. In this recycling process, to which there was no viable alternative, the banks expanded their traditional commercial activities and embarked on medium-term lending, mostly on a floating rate basis, for balance of payments and official budgetary purposes. And eventually, the international network of commercial banks became a major pillar – alongside the established official institutions – of our world monetary and financial system, particularly in meeting the financing needs of developing countries.

The initial years of the recycling exercise were, by and large, free of problems. The up-

The origins of the precarious international debt situation... date back to the early seventies when the first oil price hike of 1973/74 resulted in a massive international redistribution of income and huge payments imbalances.

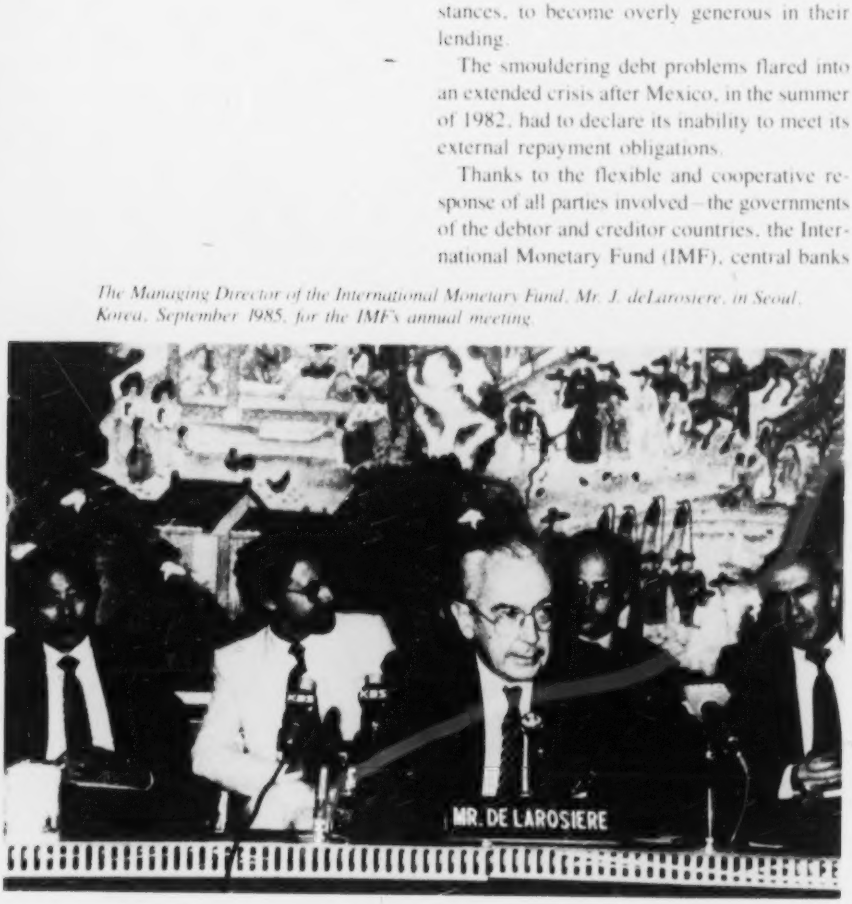
swing in world business activity and pervasive inflationary trends made it possible for the developing countries to increase their export revenues in line with the strong expansion of their debt. In view of rising commodity prices and a weak dollar, the increasing debt service obligations appeared to be a relatively easy burden to bear not only to the developing countries, but also to their creditors.

This period of fine weather came to an abrupt end with the second oil shock of 1979/80 to which the U.S.A. and most other industrial countries responded with stringent stabilization policies to counteract the dangerous acceleration in inflation. Recession in the industrial countries and falling commodity prices, along with record high interest rates, a strong appreciation of the dollar and increasing protectionism, imposed heavy burdens on the developing countries' payment balances and debt service obligations. At the same time, it became painfully evident that a number of debtor countries had pursued all too ambitious growth policies and postponed their necessary economic adjustment to the changed world economic environment for too long. In retrospect, it must also be said that the then widespread growth optimism, abundant liquidity and strong competition had led the banks, in some instances, to become overly generous in their lending.

The smouldering debt problems flared into an extended crisis after Mexico, in the summer of 1982, had to declare its inability to meet its external repayment obligations.

Thanks to the flexible and cooperative response of all parties involved – the governments of the debtor and creditor countries, the International Monetary Fund (IMF), central banks and commercial banks – a disastrous chain reaction and collapse of the international financial system have been avoided. The rescue operations were put together with speed and efficiency, thus preventing a breakdown of the debtor countries' economies. Apart from the injection of badly needed funds, the IMF has played a crucial and highly responsible role in coordinating this concerted action to stabilize the international financial system. Mention should also be made of the extremely useful support given by the BIS which, on various occasions provided sorely needed bridge financing to countries negotiating economic adjustment and financial support programs with the IMF and the banks.

The Managing Director of the International Monetary Fund, Mr. J. deLarosiere, in Seoul, Korea, September 1985, for the IMF's annual meeting.



. . .the BIS. . .on various occasions provided sorely needed bridge financing to countries negotiating economic adjustment. . .

The commercial banks' contribution towards restoring the financial viability of the debtor countries consisted of the restructuring of outstanding credits and, in most cases, the provision of fresh money through medium-term credits (in addition to maintaining or restoring short-term trade facilities and inter-bank lines).

Since 1982 more than 40 countries have had debts rescheduled in accordance with their individual requirements, or are in the process of negotiating with their creditors. The bank claims involved amount to roughly $200 billion. New credits committed by the banks under rescheduling agreements come to about $30 billion so far. Needless to say, it is not an easy decision for creditor banks to increase their exposure in rescheduling countries where, as a rule, they have already made loan loss provisions for the "old" exposure.

In general, the global debt problems have induced the banks to pursue more cautious lending policies vis-à-vis the developing countries. While they had extended net uncovered credits of almost $200 billion to these countries in 1981 and 1982, the corresponding figure for the following two years was only $40 billion, mostly in the form of non-spontaneous lending to troubled debtors. In 1985 there was probably no further growth, on balance, in their claims on developing countries.

The financial support for countries in payments difficulties could, of course, only help them to help themselves. On the basis of the stabilization programs agreed with the IMF, the debtor countries have achieved a considerable improvement in their foreign trade and payments positions – first by cutting imports and subsequently, in the wake of the world eco-

. . . the debtor countries have achieved a considerable improvement in their foreign trade and payments positions. . .

nomic recovery, largely by increasing exports. While the global current account deficit of all developing countries fell from $90 billion to $24 billion from 1982 to 1984, the ten biggest rescheduling countries succeeded in turning their combined record deficit of roughly $45 billion in 1982 into a slight surplus in 1984. Several of the heavily indebted countries were able to resume economic growth.

Substantial advances in the adjustment process have created the basis, in several debtor countries, for the transition from a first phase of crisis management with yearly rescheduling rounds to a long-term strategy of consolidation. In this second phase the maturities of several years ahead are stretched over very long periods, usually at reduced interest spreads, through so-called multi-year rescheduling arrangements (MYRAS). The underlying intention is to give the debtor countries enough breathing space to pursue sustained export-oriented adjustments of their economies which strengthen their foreign exchange earning power. The associated improvement in their debt servicing capacity is expected to lead to phase three where the debtor nations' restored creditworthiness enables them to turn to the free markets for their new funding and refinancing requirements. At this juncture, this goal has yet to be attained. And an early solution of the debt crisis, which some observers had hoped for, is not in sight.

. . .an early solution of the debt crisis, which some observers had hoped for, is not in sight.

The developments in 1985 have confirmed once again, that the rehabilitation of the troubled debtor countries is a long-term cooperative process in which occasional setbacks cannot be ruled out owing to potential external and internal risks. As things stand, the slower than expected growth in world economic activity and trade, and increasing protectionist tendencies, have restrained the debtor countries' export potential and external payments prospects, while lower interest rates brought only limited relief. In some countries the social and political implications and limitations of the adjustment process have become increasingly apparent. And in many cases progress in domestic stabilization, i.e. in bringing down inflation and cutting public sector deficits have clearly been unsatisfactory. Leaders in debtor countries expressed their skepticism whether the strategies pursued so far are appropriate for securing their economic growth and development. And suggestions were made for a political solution to the debt problem in the form of global concessionary relief. But there is no doubt that such a scheme would not, in the final analysis, be in the interest of the countries concerned.

To achieve an orderly market-oriented solution the troubled nations must, in fact, outgrow their overindebtedness, i.e. their development process must be resumed after the painful disruptions of the first adjustment round. This again requires appropriate economic and financial policies on the part of the debtor countries and a continued, adequate flow of external funds.

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Dr. Gerhard Stoltenberg, German Minister of Finance, addressing the IMF Annual Meeting, Seoul, Korea, September, 1985.

Above all, the debtor countries must address the lagging stabilization of their domestic economies and aim at a more effective use of scarce capital and other resources through a meaningful combination of macroeconomic and structural policies. They need to encourage domestic savings and investment and provide more room for private initiative and international competition while curtailing the public sector. Capital formation can only flourish in an atmosphere of confidence which is created by consistent market-oriented policies. The more domestic capital stays at home or is repatriated, the more will foreign direct investors find it worthwhile to participate in the recovery process.

Above all, the debtor countries must address the lagging stabilization of their domestic economies. . .

In this process the IMF ought to retain a central role in surveilling the debtors' macroeconomic adjustment-policies and catalyzing capital flows. At the same time the World Bank, together with the regional development banks, will have to play an increasing part in supporting the countries' growth-oriented strategies through expanded fast-disbursing lendings and policy advice for sectoral reform and, in particular, the development of the private sector.

Capital formation can only flourish in an atmosphere of confidence which is created by consistent market-oriented policies.

All this requires an enhanced cooperation between the Fund and the Bank without blurring their prescribed identities as central monetary and developing institutions.

The debtor nations' own efforts and their constructive cooperation with the IMF, the World Bank and other multilateral institutions, are vital prerequisites for continued financial support from the international banking community whose contribution to the debtor countries' growth and consolidation process is indispensable.

As long as these conditions are fulfilled, the banks will be prepared to arrange multiyear reschedulings wherever possible. In their new lending they will favor ventures which enhance the debtor nations' capacity to earn or save foreign exchange and co-financing with the World Bank will presumably gain in importance. Where countries follow responsible adjustment and growth policies the banks should also be prepared, if need be, to participate in additional lendings necessitated by unforeseen adverse external developments.

In any event, sustained progress on the debt issue can only come about if all parties involved continue to cooperate and contribute their fair share towards the common goal. The initiative launched to this end by U.S. Treasury Secretary James Baker at the Annual IMF Meeting in Seoul has met with a positive initial response in the international banking community. And it is to be hoped that his proposed "Program for Sustained Growth", which still needs clarification in various respects, can be implemented in a constructive manner.

Secretary of the Treasury, James A. Baker, III, at press conference during the IMF's annual meeting in Seoul, Korea, September 1985.

Under Mr. Baker's scheme to boost the flow of funds to a group of fifteen highly indebted countries, the banks are expected to increase their exposure in these countries by some $20 billion or roughly 2½ percent p.a. over the next three years. Their participation in the envisaged joint effort to ease the debt crisis would seem to presuppose, in line with the above considerations, four things:

- the arrangement of financing programs on a case-by-case basis and in support of appropriate economic programs for the countries concerned;
- a reasonable balance between the contributions of the commercial banks and multilateral development banks;
- continuing IMF involvement in monitoring the debtor countries' adjustment policies and the coupling of new bank credits with policy-based loans extended by the development banks; and finally
- the elimination of capital flight by means of appropriate economic and monetary policies and adequate control mechanisms in the debtor countries.

All efforts at macroeconomic and structural adjustment on the part of the debtor countries combined with appropriate external financial support measures could prove to be of no avail, however, if the industrial nations fail in establishing a satisfactory world economic environment. What they must achieve is durable non-inflationary growth, permanently lower interest rates and, above all, a decrease rather than further increases in the trade barriers erected against exports from developing countries. To attain this ambitious objective, constructive trade negotiations should be initiated as soon as possible within the envisaged new GATT round.

In the industrial nations, public deficits must be reduced and the destabilizing imbalances in international payment flows corrected. What is needed above all – particularly on the part of the leading industrialized nations – is more clearly defined medium-term policies which give greater attention to their international repercussions.

All this requires enhanced efforts to cooperate and coordinate policies at the international level. The announcement made by the Ministers of Finance and Central Bank Governors of the Group of Five leading industrial countries in September 1985 shows that those who bear political responsibility are aware of the challenge. The inescapable fact that, in today's highly interdependent world economy, any attempt at economic isolationism is doomed to failure should give leading policymakers the courage and the strength to follow up their words with action. ■

DEUTSCHE ZUSAMMENFASSUNG

Die gegenwaertige internationale Verschuldenskrise ist eine der grossen Herausforderungen fuer die Regierungen und die Geschaeftswelt, insbesondere fuer die Bankenwirtschaft. An die 60 Staaten, die meisten davon Entwicklungslaender, aber auch Ostblocklaender koennen ihren internationalen Rueckzahlungsverpflichtungen nicht mehr nachkommen und haben Umschuldungen zugestimmt oder solche beantragt. Die Verschuldung der Schuldnerlaender belief sich Ende 1984 auf $550 Milliarden, wobei Handelsbanken mit ca. $300 Milliarden beteiligt sind. Der Anteil der deutschen Banken einschliesslich ihrer auslaendischen Tochterorganisationen macht ca. 7% aus.

Nach der ersten Oelkrise von 1973/74 kommt den Handelsbanken neben internationalen Organisationen wie dem International Monetary Fund (IMF) und der Weltbank eine wesentliche Rolle bei der Kapitalversorgung der Entwicklungslaender zu. Die bei den Handelsbanken angelegten Ueberschuesse der erdoelexportierenden Laender wurden im Wege eines Recyclings auf der Basis flotierender Wechselkurse mittelfristig an erdoelimportierende Drittlaender ausgeliehen, was anfaenglich angesichts steigender Rohstoffpreise und des damals schwachen Dollars den Entwicklungslaendern nur wenig Sorge bereitete.

Die Schoenwetterperiode nahm mit der zweiten Oelkrise von 1979/80 ein abruptes Ende, als die Vereinigten Staaten und andere Industrienationen entscheidende Stabilisierungsmassnahmen ergriffen, um der Inflation Herr zu werden. Die Volkswirtschaften der Industrienationen gerieten in eine Rezession, das Zinsniveau stieg, waehrend die Rohstoffpreise einem Verfall ausgesetz waren. Gleichzeitig wurde offensichtlich, dass viele Entwicklungslaender zu ehrgeizige Wachstumsziele angesetzt hatten und dass die Banken bei ihrer Kreditvergabe zu grosszuegig gewesen waren.

Nachdem Mexiko in Jahre 1982 seine Zahlungsunfaehigkeit erklaert hatte, konnte durch die Zusammenarbeit aller Beteiligten—der Regierungen der Glaeubiger- und der Schuldnerlaender, des IMF, der Zentralbanken sowie der Handelsbanken—ein Zusammenbruch des internationalen Waehrungs- und Finanzsystems vermieden werden. Die internationale Rettungsaktion wurde vom IMF koordiniert, wobei insbesondere auch auf die Rolle der Bank of International Settlements hinzuweisen ist, die den Schuldnerlaendern notwendige Zwischenkredite zur Verfuegung gestellt hat.

Die Handelsbanken beteiligten sich an der Rettungsaktion, indem sie Umschuldungen vornahmen und den Schuldnerlaendern weitere—ueberwiegend mittelfristige—Kredite zur Verfuegung stellten. Seit 1982 unterliegt die Kreditvergabe allerdings strengeren Voraussetzungen. Belief sich die Keditvergabe in den Jahren 1981 und 1982 auf annaehernd $100 Millarden, fiel sie in den zwei darauffolgenden Jahren auf $40 Milliarden, und 1985 wird voraussichtlich keine Erhoehung zu verzeichnen sein.

Die internationale Rettungsaktion kann nur Hilfe zur Selbsthilfe sein. In Uebereinstimmung mit dem Stabilisierungsprogramm haben die Schuldnerlaender in Zusammenarbeit mit dem IMF ihre Importe reduziert bei gleichzeitiger Erhoehung ihrer Exporte; das Leistungsbilanzdefizit, das 1982 noch $90 Milliarden betragen hatte, wurde auf $24 Miliarden im Jahre 1984 zurueckgefuehrt.

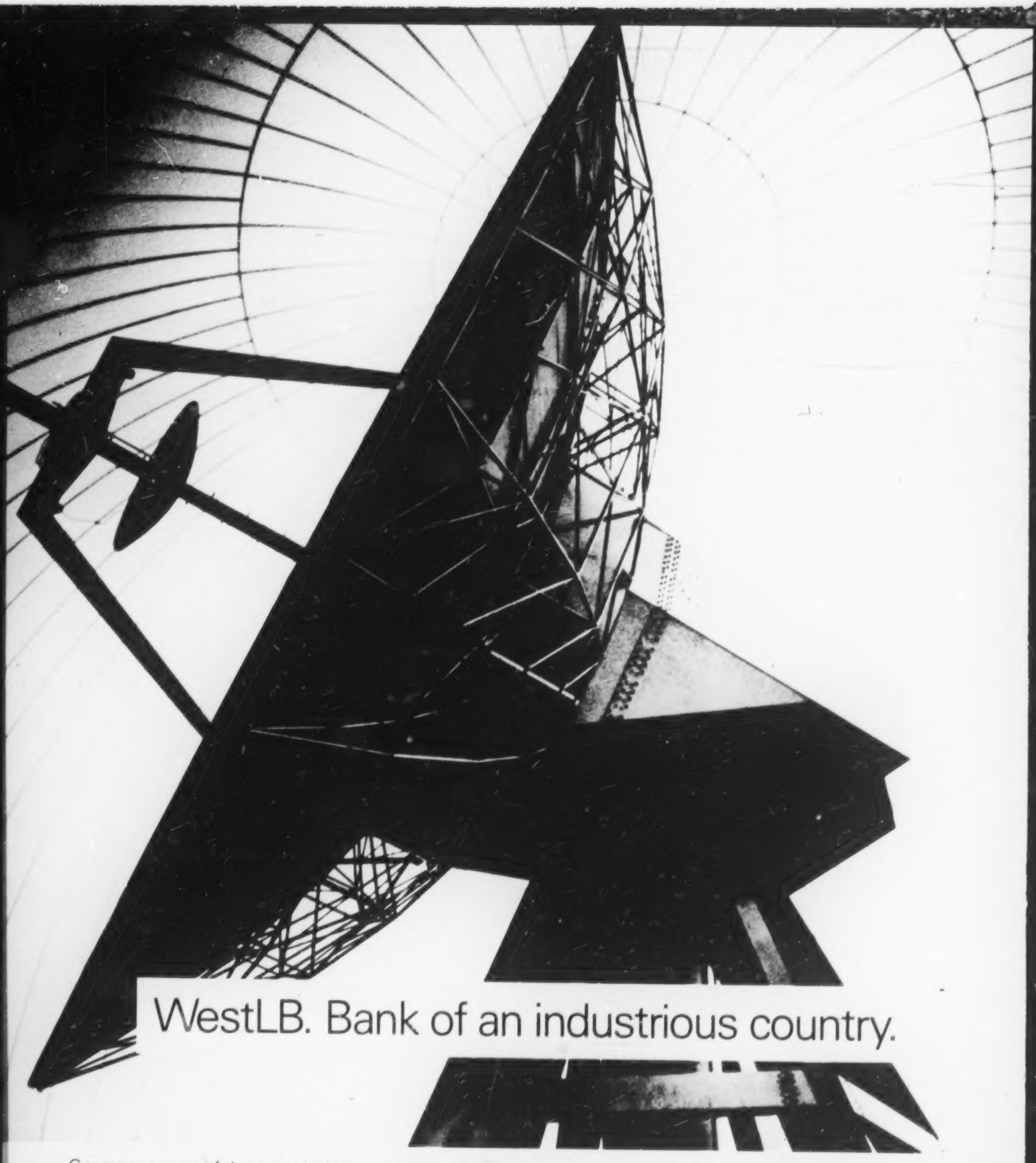
Diese Entwicklung hat dazu gefuehrt, dass verschiedene Schuldnerlaender nach der ersten Phase des Krisenmanagements in die zweite Phase der Konsolidierung eingetreten sind. Es ist vorgesehen, dass in der zweiten Phase der Umschuldung die in den letzten Jahren angelaufenen Kredite ueber eine Reihe von Jahren zurueckgefuehrt werden. Angestrebt wird die Erreichung der dritten Phase, die dadurch gekennzeichnet ist, dass die Schuldnerlaender international wieder als voll kreditwuerdig anerkannt werden.

Es handelt sich um einen langwierigen Entwicklungsprozess, und voruebergehende Rueckschlaege sind nicht ausgeschlossen. Die Entwicklung vollzieht sich langsamer als urspruenglich angenommen, da das Wachstum der Weltwirtschaft und des Welthandels hinter den Erwartungen zurueckgeblieben ist und sich die Exporte der Schuldnerlaender nicht so stark erhoeht haben. Auch laesst der wirtschaftliche Anpassungsprozess der Entwicklungslaender noch zu wuenschen uebrig. Trotz gelegentlich geaeusserter Kritik an dem eingeschlagenen Kurs, gibt es keine Alternativen. Ein allgemeiner Schuldenerlass ist keine Loesung und liegt nicht im Interesse der Schuldnerlaender.

Der Entwicklungsprozess muss weiter vorangetrieben werden. Dies erfordert eine weitere Zusammenarbeit zwischen Glaeubiger- und Schuldnerlaendern. Diese muessen die heimischen Industrien staerken, private Investitionen und Initiativen foerdern und die Kapitalflucht verhindern. Dem IMF und der Weltbank kommt bei der Ueberwachung dieses Programms eine ueberragende Rolle zu.

Die Handelsbanken sind bereit, soweit erforderlich weitere Umschuldungen vorzunehmen und den Schuldnerlaendern fuer geeignete Projekte neue Kredite zur Verfuegung zu stellen. Dies steht im Einklang mit dem "Programm fuer Anhaltendes Wirtschaftswachstum" (Program for Sustained Growth), das der amerikanische Finanzminister James Baker in Oktober 1985 auf der Jahrestagung des IMF in Seoul verkuendet hat. Dieses Programm, das allerseits Zustimmung gefunden hat, sieht eine Erhoehung der Bankenfinanzierung an eine Gruppe von 15 Schuldnerlaender um ungefaehr $20 Milliarden oder 2½% ueber die naechsten drei Jahre vor.

Vier Voraussetzungen muessen erfuellt sein: (1) die Ausarbeitung von Finanzierungsprogrammen fuer jedes einzelne Schuldnerland in Uebereinstimmung mit dem Wirtschaftsentwicklungsprogramm; (2) ein angemessenes Verhaeltnis zwischen den Beitraegen der Handelsbanken und den internationalen Entwicklungsbanken; (3) weitere Ueberwachung der Strukturanpassung durch den IMF; (4) Verhinderung von Kapitalflucht durch eine geeignete Wirtschafts- und Waehrungspolitik sowie Sicherstellung einer Ueberwachung durch die Schuldnerlaender. Dies erfordert enge Zusammenarbeit auf internationaler Ebene.



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Die Verschuldung der Entwicklungslaender: Bewertung und Aussichten

The Less Developed Countries' Debt Situation: Assessment and Prospects

by Lewis T. Preston
Chairman of the Board
Morgan Guaranty Trust Co.

It is now over three years since Argentina and Mexico proved unable to service their external obligations on a timely basis and required, as soon did a number of other developing countries, debt relief and financial assistance from their private and official creditors. This help, shaped as part of a cooperative international strategy in late 1982 and early 1983, envisioned a three-pronged attack on the problem:

> **. . .a cooperative international strategy in late 1982 and early 1983, envisioned a three-pronged attack on the problem . . .**

- First, the industrial countries, then steeped in recession and plagued by very high interest rates, were to stage a sustained and non-inflationary recovery of economic activity that would benefit the LDC's (Less Developed Countries) by providing them with expanding markets for their exports and lower carrying costs on their foreign debt.
- Second, the flow of capital to the troubled LDCs, then interrupted, would be partially restored by way of emergency loans from multilateral agencies such as the International Monetary Fund, the World Bank, and the Inter-American Development Bank, the official export credit agencies of the industrial countries, and the commercial banks themselves.
- Third, the debtor countries, which were clearly overborrowed, were to take policy measurs to encourage exports, economize on imports, boost domestic savings, improve the yield of investments, and attract the capital of their own residents which had fled to safer havens.

The idea was that, after three or four years of coordinated effort, the international financial markets could be instilled with sufficient confidence to reopen themselves, even if gradually and modestly, to the genuine credit needs of the developing countries. Financial support from the IMF no longer would be needed, involuntary lending by commercial banks would come to an end, and countries could resume their economic growth on a sounder, more self-sufficient basis.

Judged by this expected bottom-line result, it is clear that the strategy to deal with the LDC debt problem has not produced the return to creditworthiness that we all hoped for. Private financial institutions and multinational corporate investors are not appreciably more eager to lend or invest in the debtor countries than they were when we embarked on this venture three years ago. The debtor countries—despite the more realistic repayment terms that have since been negotiated, their now proven ability to earn foreign exchange with which to meet interest pay-

> **. . .the strategy to deal with the LDC debt problem has not produced the return to creditworthiness that we all hoped for.**

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International Monetary Fund, Annual Meeting, Seoul, Korea, September, 1985.

ments, and the continued willingness of most of the countries to work on their economic problems and adjust to the new circumstances – are viewed as just as overborrowed, and thus no less risky, than at the start.

Was the cooperative strategy conceptually flawed? Have we been following the wrong approach to the problem? Has the effort expended been in vain?

My answer is no, on all three counts. The strategy was, and in my view, remains the correct one; it needs to be given more time than originally contemplated to produce the intended result, and various weaknesses and implementation problems affecting it now have to be addressed. Besides, there are no viable, desirable alternatives. There is no constituency in the United States or elsewhere in the industrial countries for the kind of foreign aid program that could make a difference to the major debtor countries or their commercial creditors. And no unilateral debt foregiveness, repudiation, or interest capitalization scheme could ever hope to pave the way for an improvement in the economic prospects of the countries involved. Such a "solution" would lead, instead, to the termination of credit arrangements in support of trade and banking activities and scare away *all* loan and investment capital, domestic as well as foreign.

The international economic environment . . . has not been as supportive of progress on the LDC debt issue as we had hoped.

The world environment

The international economic environment of the past three years has not been as supportive of progress on the LDC debt issue as we had hoped. Basically the only market for LDC exports which has expanded substantially during this time has been that of the United States. This has been so because of the unexpected strength of the U.S. economic recovery and of the dollar during 1983-84, and the slower growth and weaker currencies that characterized the rest of the OECD area, at least until mid-1985. Therefore, European imports from the major indebted countries have increased only a little relative to the first half of 1983, while Japan's purchases have been running *below* what they were two or three years ago. The resulting concentration of LDC exports into the American market is illustrated by the case of Brazil, for which sales to the U.S. were a third of total exports in 1985, whereas they had been less than a fifth of Brazilian exports during 1980-81. This dependence on the U.S. market now threatens to produce a protectionist backlash with very harmful consequences to those LDCs that most need to export.

Commodity prices have been much weaker than we anticipated. Economic growth in the U.S. and Japan and, lately in Europe, has taken place under non-inflationary conditions unseen in a very long time. This has effectively removed the speculative element imbedded in the demand for raw materials during earlier accelerations of economic activity. In addition, the pervasiveness of dollar strength until the first quarter of 1985 meant that commodity prices quoted in dollars were unusually depressed relative to quotations in other currencies. There have developed, moreover, fundamental imbalances of supply and demand affecting a majority of commodities, from aluminum to cotton, and from petroleum to soybeans. Some metals suffer from competition by substitutes or from structural decline in demand. All of this is of great significance for the heavily indebted LDCs because, with few exceptions, they are still overwhelmingly dependent on commodities for their export earnings – be it oil in the case of Mexico, Nigeria, and Venezuela, agricultural products in the case of Argentina, Brazil, and the Philippines, or metals in the case of Chile and Peru.

Eurocurrency interest rates . . . still are not sufficiently low relative to the trend and outlook for inflation . . .

Eurocurrency interest rates have taken longer to come down from their highs of the early 1980s than we had expected, and they still are not sufficiently low relative to the trend and outlook for inflation in the major industrial countries. The six-month dollar LIBOR has averaged around 8% since May of 1985, half of where it stood in mid-1982, but for three full years the high level of Eurodollar interest rates imposed a burden on the LDCs, particularly in view of the uneven trend in their commodity exports. In fact, LIBOR at 8% has been, in recent months, a very high rate of interest from the perspective of debtor countries experiencing renewed weakness of dollar export prices – the currency in which 80% or more of their foreign debt is denominated.

Adjustment in the LDCs

The debtor countries have not gone so far as needed in making economic reforms to regain the confidence of either foreign creditors *or* their own nationals. In the wake of their external payments difficulties, most of the LDCs undertook crash austerity programs, some of them of greater severity than had been thought politically feasible. Budgetary deficits were cut, monetary policies were tightened, wage increases were curbed, and currencies were devalued to induce businessmen to export more and consumers to import less. The result was a quicker-than-expected turnaround in the LDC foreign trade position, which went from deficit or small surplus to very large surpluses – over $12 billion a year in the cases of Brazil and Mexico. It was accomplished, however, at a steep cost in terms of internal living standards and domestic, cost-push inflation.

What has taken much longer to get started than anticipated are the kinds of reforms that can make a real difference in the long run: redefinition of the role of the state, to prune overgrown bureaucracies and put an end to the monopolistic position enjoyed by most government-owned enterprises; liberalization of rules affecting foreign commerce and private investment, to foster the expansion of industries that are competitive internationally; and changes in tax codes and the regulation of financial intermediaries, to encourage the repatriation of flight capital and the generation of domestic savings.

These supply-side reforms are essential for LDC economic growth to resume on a sounder, more self-sustaining basis – as opposed to the traditional wav. . .

These supply-side reforms are essential for LDC economic growth to resume on a sounder, more self-sustaining basis – as opposed to the traditional way, via government spending and looser credit, to which some debtor countries are beginning to resort.

Financing flows

The flows of new financing to the LDCs are proving seriously inadequate to enable the debtor countries to relax emergency restrictions on imports and, perhaps, to motivate them to keep on making progress. The IMF orchestrated financing packages and lent significant amounts of its own resources to the LDCs, raising its credit outstanding to about $35 billion now from $15 billion at the end of 1981, but it is becoming a net recipient rather than provider of funds. Under current access rules, especially as interpreted conservatively in light of pressure from the U. S. and other industrial countries, the IMF is providing half as much financing as three years ago to countries seeking its guidance and support. Meanwhile, under present repayment rules, the volume of principal payments falling due is mounting rapidly, to $6 billion in 1986 and a scheduled $8 billion in 1987 from an annual average of some $2 billion during 1981-84.

The World Bank's role in meeting the needs of the debtor countries has been disappointing. Its annual commitments of new loans have ac-

The result was a quicker-than-expected turnaround in the LDC foreign trade position, which went from deficit or small surplus to very large surpluses. . .

The World Bank's role in meeting the needs of the debtor countries has been disappointing.

tually fallen during the last two fiscal years. The Bank has continued to concentrate on project lending, even though this type of slow-disbursing financing is inappropriate in view of the many projects already completed in the major debtor LDCs and the more urgent nature of their current requirements. Moreover, the Bank has been slow to improve the attractiveness of commercial bank cofinancing and to make use of its guarantee authority – both of which could stir renewed interest on the part of private sources of finance.

Official export credit agencies, the main channel of bilateral official lending, have slowed down their financing to developing countries. One reason is that, as the debtor nations have had to retrench and cut back their investment spending, there have been fewer opportunities for the industrial countries to sell capital goods to LDCs and finance their purchase. Another reason, however, is that the export credit agencies have pulled back alongside private lenders in reaction to the higher risk of doing business with the debtor LDCs. Export credit guarantees and insurance coverage have often been restricted to short-term operations or suspended in the wake of requests for Paris Club reschedulings, and some agencies have been slow to restore coverage after the orderly restructuring of this type of indebtedness.

Commercial bank lending to the LDCs also has fallen below expectations, despite the commitment and disbursement of new-money facilities for all countries adhering to IMF-approved stabilization programs. The available figures on bank credit outstandings suggest that there have been substantial repayments of existing private-sector loans and of trade and inter-bank lines, so that countries have not witnessed even the kind of measured bank lending growth that was intended three years ago. Meanwhile, the process whereby commercial banks raise involuntary finance for the debtor countries promises to become increasingly difficult, since a number of participants have made adjustments to their LDC loan portfolio, for instance via swaps and write-offs, that erode the feasibility of new-money packages.

. . .the export credit agencies have pulled back alongside private lenders in reaction to the higher risk of doing business with the debtor LDCs.

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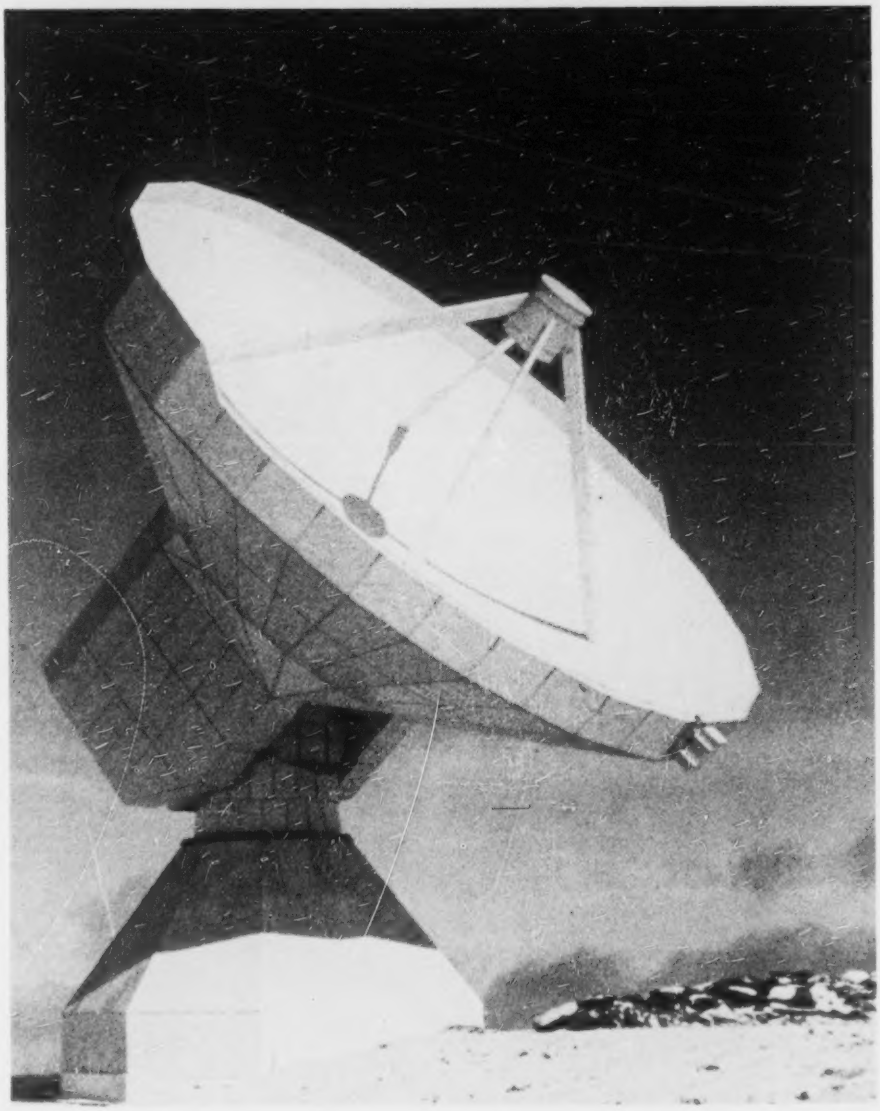

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KRUPP

Conclusions

Weaknesses are now evident in each of the three prongs of the cooperative international approach to the LDC debt problem:

–The global environment is not as supportive as it could be;

–The debtor countries have lagged in making internal reforms necessary to attract loan and equity capital, both resident and foreign;

–and financial flows are proving insufficient.

Greater efforts must be made to keep alive the present cooperative approach and to give it time to achieve the intended result – the restoration of creditworthiness.

With regard to the world economic environment, the first priority must be to take advantage of the present low inflation in the leading industrial countries to boost the level of activity. OECD real GNP growth of barely 2.5% needs to be pushed upward into the 3%-3.5% range – not simply to benefit the LDCs, but to advance the self-interest of the industrial countries. The prescription for Europe is to emphasize expansionary demand policies, including fiscal action, which would reduce Europe's high unemployment and assist efforts at structural adjustment. Japan also could use domestic demand stimulus to curb its disruptive trade surplus.

The prescription for Europe is to emphasize expansionary demand policies, including fiscal action. . .

For the United States, concern centers on how best to assure a reduction of interest rates. Current rates are unjustifiably high in real terms given the falling prices facing the agricultural and energy sectors of the American economy, not to mention commodity exports of LDCs. If the economy fails to pick up, the Federal Reserve is not likely to risk loss of credibility if it moves to push interest rates down. Lower rates should be conducive to a lower dollar – to the benefit of dollar commodity prices. To help interest rates decline, the federal budget deficit must be brought down from its present level exceeding 5% of GNP to about 3% of GNP over the next three years.

Strong OECD economic growth also would help slow the protectionist tide that menaces LDC exports and world prosperity generally. If the U.S. protectionist clamor is to be held in check, concrete measures will need to be taken to ensure that the wide American trade deficit is turned around – cutting it, say, by $100 billion within three years. To achieve this mainly by contraction of imports would be counterproductive for world economic growth – and extremely harmful for the LDCs, given the significance of the American market. The U.S. trade deficit, therefore, is not simply an American problem but a global challenge that calls for Japan and Europe to put aside their mercantilist instincts in favor of importing more and rooting out barriers to trade.

The U.S. trade deficit, therefore, is not simply an American problem but a global challenge. . .

The main shareholders of the IMF and the World Bank should adjust these institutions' lending activities to today's new realities. The long-established concept that the Fund exists to provide temporary balance of payments financing is predicated on the notion that private credit market access would be restored once a country's trade and current account deficits are corrected. In the past three decades this process normally has taken about two years, and the major LDC debtors are no exception to this rule. The critical difference this time, however, is that current account adjustment has not proved sufficient to restore either market access or generate confidence among residents to produce a reflow of capital. The indebted countries are expected to bring about structural economic and financial reforms that will increase domestic savings, open up investment opportunities, and make their industries more competitive internationally. In this difficult and prolonged adjustment process, which goes well beyond the usual current account correction, the role of the IMF ought to remain central, although it should be shared increasingly with the World Bank.

Petroleum-exporting countries, in particular, need to work closely with the Fund to adapt their economies to the reality of weak oil markets. Most commodity-exporting countries likewise would find it advisable to maintain a good working relationship with the IMF, in order to cushion the impact of low commodity prices. Even countries such as Argentina, Brazil, and Yugoslavia, capable of running a balanced or surplus current account position while they recover and grow, can benefit from Fund advice and involvement in view of their domestic macroeconomic problems.

However, in light of the heavy schedule of repayments to the IMF that most LDCs now face, current access rules to Fund resources seem to be unrealistic. They yield a negligible or even negative net flow of IMF financing at a time when alternative sources of support are scarce and likely to remain so in the foreseeable future. Debtor countries must have a strong incentive to keep coming to the Fund. By the same token, commercial banks need a Fund program to be persuaded to keep on providing financing. Only an IMF that is positioned to disburse meaningful amounts of new financing

. . .current access rules to Fund resources seem to be unrealistic.

Only an IMF that is positioned to disburse meaningful amounts of new financing will have the necessary clout.

will have the necessary clout. Existing ceilings on use of Fund resources, therefore, should be reviewed to see how they may be augmented or at least applied in a more flexible manner.

The World Bank should increase its support to the major debtors. Its emphasis on project financing should be changed, because the principal LDCs have already made many investments that now need to be managed productively. In those countries, the Bank needs to demonstrate greater willingness to back, with sizable and quick-disbursing sector- and structural-adjustment loans, the kind of long-postponed sectoral policy reforms that can yield major economic benefits. Besides, policy-based lending can be the vehicle for delivering sigificantly larger amounts of commercial bank cofinancing than are now possible through project loans. Additional private funds could be marshaled by use of the Bank's guarantee authority.

The official export credit agencies of the industrial countries need adequate financial backing and should adopt more flexible policies. The practice of reducing or even denying guarantees and insurance to countries that request debt relief via the Paris Club should be applied only in exceptional circumstances. Multiyear reschedulings of official bilateral debt should be considered favorably for countries that have negotiated multiyear agreements with commercial banks. Further, the agencies should widen the scope of their financing beyond capital goods to include materials and parts needed for better utilization of existing investments.

Commercial banks need to explore innovative approaches to LDC financing. Ways have to be found to maintain the participation of as large a number of lending institutions as possible by such features as options to lend in home currencies and, within individual countries, to lend at least a portion of new funds to borrowers of their own choosing. Tying new money facilities to the financing of trade or specific projects, which generate additional foreign exchange earnings, could be useful. Consideration also may be given to multiyear new money commitments. Finally, the attitude of bank regulators and supervisors can make a major difference. They should avoid requiring across-the-board loan-loss provisions – such as those imposed by officials in Canada, Japan, and some European countries – that fail to differentiate among the various debtors, and acknowledge promptly countries that make significant progress.

Finally, the attitude of bank regulators and supervisors can make a major difference. They should avoid requiring across-the-board loan-loss provisions.

The greatest contribution that the debtor countries can make to normalizing their access to foreign credit and achieving the recovery in income growth they need is to persevere with sound macroeconomic policies and press forward with the kind of reforms mentioned earlier. Thus, working in conjunction with the IMF and the World Bank, they should move forcefully to curb inflation by cutting down their overextended public sectors, scrap administrative controls and regulations that crimp the vitality of their private sectors, and open up their economies to outside competition and investment. These are the means necessary to make their own citizens confident that opportunities for saving and investing at home can be as rewarding as those abroad, and to attract foreign companies with the modern technology, export marketing know-how, and access to external financing that many local firms lack.

There are no magic formulas or easy solutions to the LDC debt problem. The lessons from countries such as Turkey, and others that encountered debt servicing problems earlier, is that even after the necessary reforms are made, it takes more than a few years for voluntary lending to return. In the meantime, LDC economic growth must be export-oriented, and an increased flow of foreign credit must be linked to policy reforms and structural adjustment and to stepped up industrial-country exports to the LDCs. This is the way not only to combat protectionism but also to achieve the objective of normalized access to external financing.

In short, as I see it, it is in the self-interest of all parties involved to shoulder their mutual responsibilities. Creditors and debtors alike must not expect instantaneous results as implementation of structural reforms will take time, but working together in good faith we can build on what has already been achieved and move closer to our common goals of steady economic expansion, restored investor confidence, and normalization of financial flows.

The recent proposal made by U.S. Secretary of the Treasury James Baker is therefore timely. It breathes new life into an effort that was beginning to flag. The Baker Initiative, as it is now commonly referred to, has generated some new momentum. No one should underestimate the efforts that will be required to make it work in practice, but it articulates a sensible, constructive approach that deserves full support. In my view it is important that banks and creditor governments voice their support and commit themselves to renewed credit flows.

It is also important to move rapidly towards the expanded role proposed for the World Bank and other multilateral development banks, working closely with the International Monetary Fund, which continues to play a pivotal role. ■

DEUTSCHE ZUSAMMENFASSUNG

Als die Verschuldung Argentiniens, Mexikos, und einer Reihe anderer Staaten ein solches Mass angenommen hatte, dass sie ihren internationalen Verpflichtungen nicht mehr nachkommen konnten, wurde als Teil einer gemeinsamen internationalen Initiative eine Strategie entwickelt, die drei Ziele hatte.

Das erste Ziel bestand in der Ankurbelung eines nicht inflationaeren Wirtschaftsaufschwungs in den Industrielaendern, deren Maerkte fuer Produkte aus Drittlaendern aufnahmefaehiger gemacht werden sollten. Zweitens sollte der Zufluss von Kapital durch internationale Organisationen wie den International Monetary Fund (IMF), die Weltbank und die Inter-American Development Bank an die Schuldnerlaender erhoeht werden, und drittens wurde von den Schuldnerlaendern erwartet, dass sie Massnahmen ergreifen wuerden, um den Export—bei gleichzeitiger Begrenzung der Importe—zu erhoehen, Anreize fuer auslaendisches Kapital zu schaffen und die Kapitalflucht zu verhindern. Durch diese Massnahmen sollte das Vertrauen in die Entwicklungslaender gestaerkt und sie wieder kreditwuerdig gemacht werden.

Die genannten Ziele sind bisher noch nicht erreicht worden. Die Kreditbereitschaft privater und internationaler Investoren hat sich nicht erhoeht und die Kreditwuerdigkeit der Schuldnerlaender wird trotz inzwischen getroffener realistischerer Rueckzahlungsvereinbarungen weiterhin als "riskant" eingestuft.

Trotzdem waere es vorschnell, wuerde man die internationale Initiative als gescheitert betrachten, zumal auch keine geeigneten Alternativen zur Verfuegung stehen. Ein allgemeiner Schuldenerlass haette nur zur Folge, dass in Schuldnerlaendern ueberhaupt keine Kapitalinvestitionen mehr vorgenommen wuerden; ein Schuldenmoratorium wuerde folglich keine Loesung darstellen.

Warum die Strategie bisher noch nicht zum gewuenschten Erfolg gefuehrt hat, hat mehrere Gruende. Die weltwirtschaftliche Entwicklung war nicht besonders guenstig. Nur der amerikanische Markt war in den letzten Jahren in der Lage, wesentlich mehr Importe aus Entwicklungslaendern aufzunehmen. Hinzu kommt der allgemeine Preisverfall fuer die meisten Rohstoffe bedingt durch das Ungleichgewicht von Angebot und Nachfrage und die Staerke des US Dollars.

Die Entwicklungslaender selbst haben zwar erhebliche Anstrengungen unternommen: Sparmassnahmen wurden ergriffen, Haushaltsdefizite abgebaut und Waehrungen abgewertet. Diese Massnahmen haben sich aber insgesamt als nicht ausreichend erwiesen. Es ist u.a. notwendig, die ausufernde Buerokratie weiter einzudaemmen, die Wettbewerbsfaehigkeit der Volkswirtschaften der Entwicklungslaender zu verbessern und die Attraktivitaet ihrer Maerkte fuer auslaendische Investitionen zu erhoehen.

Der notwendige Zufluss von Kapital in die Schuldnerlaender ist unzureichend. Die gegenwaertigen Finanzierungsvoraussetzungen des IMF sind zu stringent, und dasselbe gilt fuer die Bedingungen der Weltbank, deren Kreditvergabe der letzten zwei Jahre sogar zurueckgegangen ist. Ausserdem erweist sich die projektgebundene Finanzierung der Weltbank angesichts der gegenwaertigen Verschuldensproblematik als unbefriedigend. Die Exportfinanzierung durch oeffentliche Exportsversicherungen und die Kreditvergabe durch Handelsbanken sind ebenfalls zurueckgegangen.

Nachdem die Schwaechen der Strategie zur Bewaeltigung der internationalen Schuldenkrise erkannt worden sind, ist es erforderlich, die Anstrengungen auf den drei genannten Ebenen zu verstaerken. Das bedeutet:

Die weltwirtschaftlichen Rahmenbedingungen muessen verbessert werden. Das umfasst den Abbau der hohen Arbeitslosigkeit in Europa, Ankurbelung der Nachfrage, weitere Oeffnung der Maerkte der Industrienationen fuer Produkte aus Laendern der Dritten Welt, und Reduzierung des Zinsniveaus. Diese Massnahmen wuerden auch den protektionistischen Tendenzen entgegenwirken.

Es bedarf eines vermehrten Zuflusses von Kapital in die Schuldnerlaender. Eine Modifizierung der Finanzierungsbedingungen des IMF und der Weltbank erscheint erforderlich. Die bisherige Kreditpraxis sah vor, dass den Schuldnerlaendern neben projektgebundenen Finanzierungen nur Ueberbrueckungskredite gewaehrt werden. Diesem Konzept lag die Vorstellung zugrunde, dass die Kreditempfaenger in der Lage sein wuerden, sich auf dem freien Kapitalmarkt zu finanzieren. Diese Vorstellung wird dem Ausmass der heutigen Verschuldenskrise von Staaten der Dritten Welt nicht gerecht. Auch die oeffentlichen Kreditversicherungen und die Handelsbanken sind aufgerufen, ihre Finanzierungsanstrengungen zu verstaerken.

Die Schuldnerlaender schliesslich muessen selbst groessere Anstrengungen unternehmen, um ihre Volkswirtschaften in Zusammenarbeit mit dem IMF und der Weltbank den notwendigen Reformen zu unterziehen, die Inflationsraten zu senken, buerokratische Schranken abzubauen, die Kapitalflucht zu verhindern und ihre Maerkte fuer auslaendisches Kapital attraktiver zu machen.

Diese Ziele stehen auch im Einklang mit den Programmpunkten, die der amerikanische Finanzminister James A. Baker im Oktober 1985 auf der Jahrestagung des IMF und der Weltbank in Seoul, Korea verkuendet hat.

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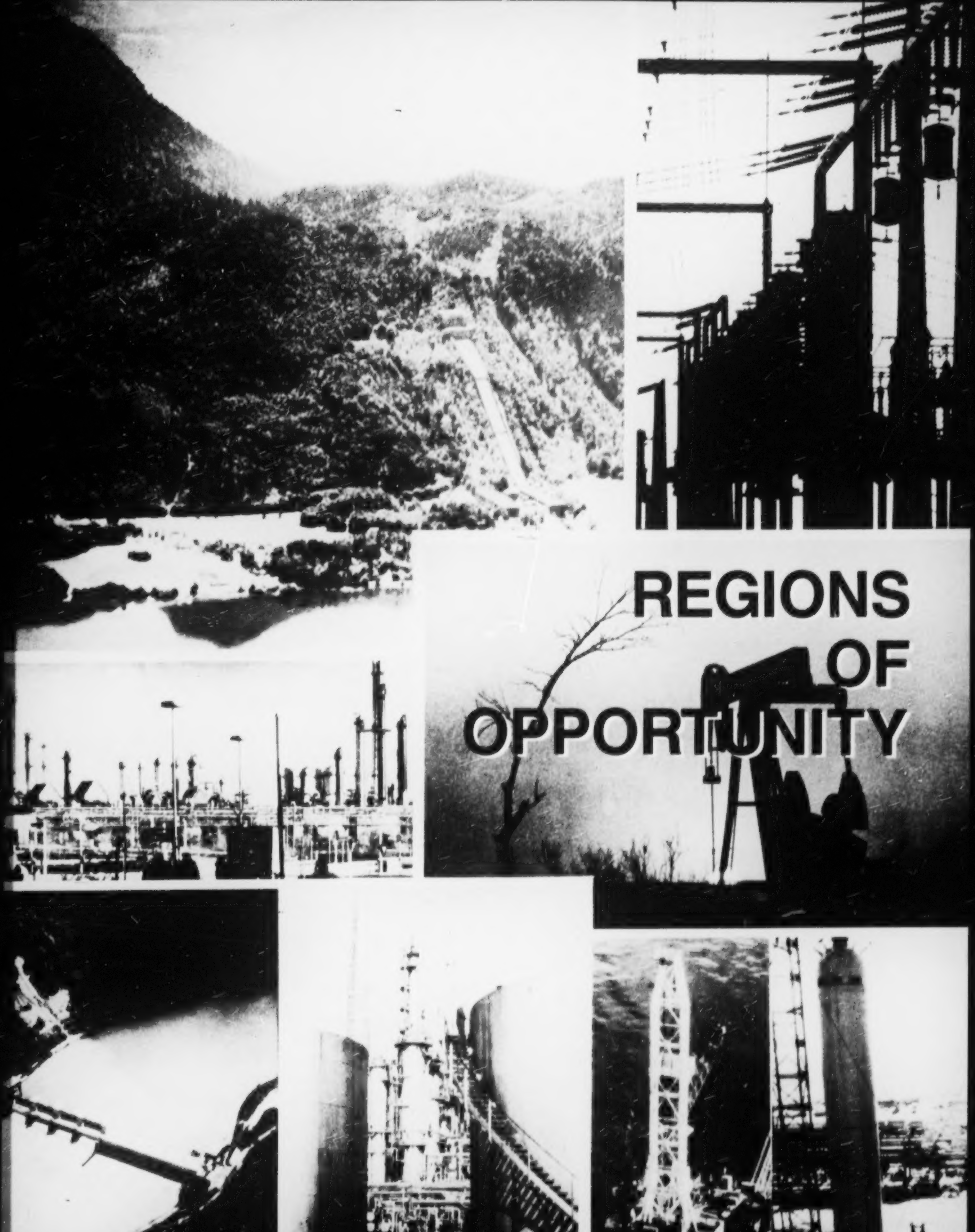

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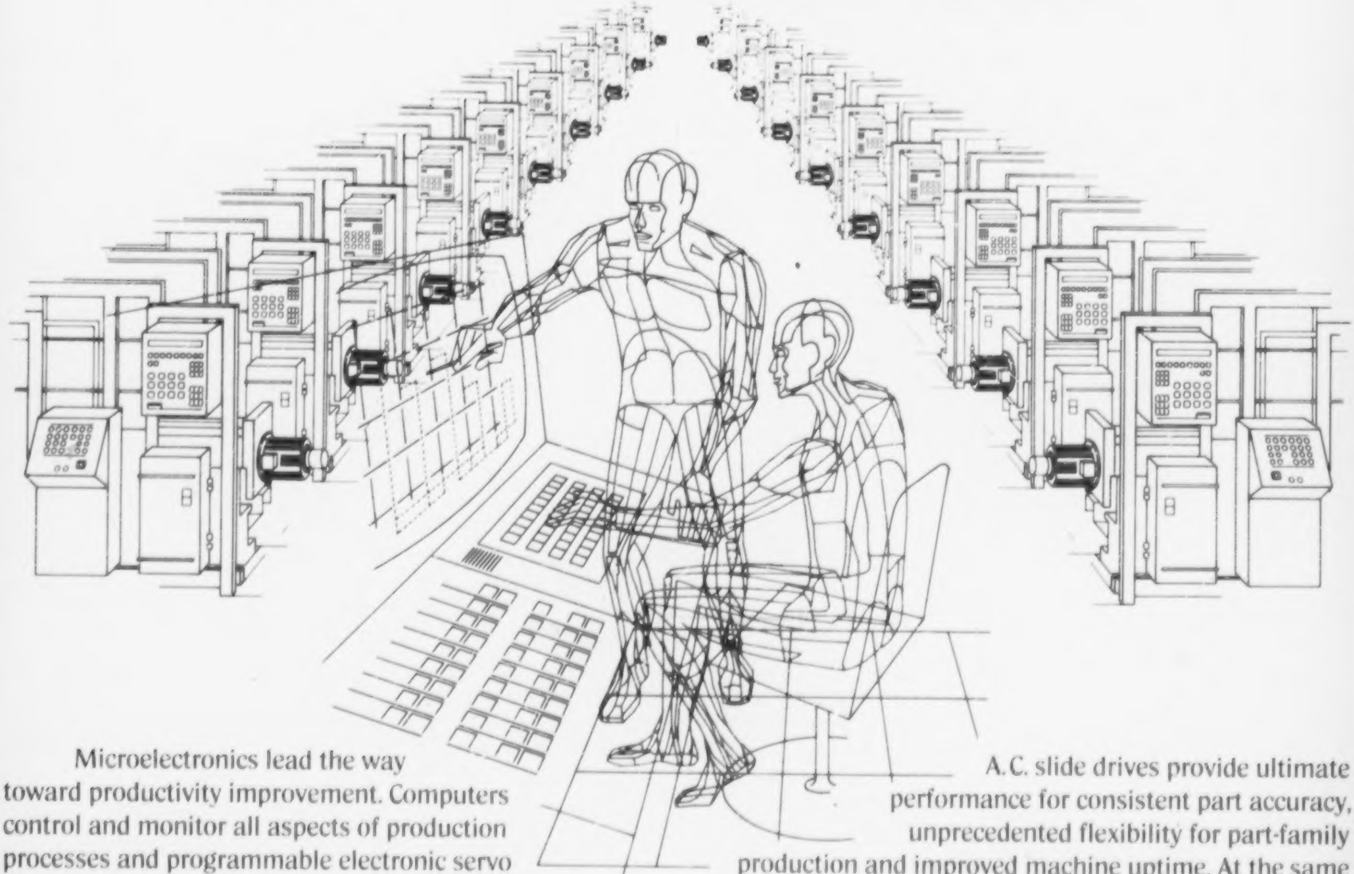

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Rhineland-Palatinate: Opportunity for Industries

by Dr. Bernhard Vogel
Governor of the State
of Rheinland-Pfalz

In 1985, the American President, Mr. Ronald Reagan, spent a particularly long time in Rhineland-Palatinate during his state visit to the Federal Republic of Germany. There was a profound historical reason for his visit to Rhineland-Palatinate: no other state in the Federal Republic has had such close ties to the United States throughout its history; and no other state in the Federal Republic has such a large number of residents who are U.S. citizens. For more than a century, all Germany speaking immigrants in the United States have been known as "Palatines". A Palatinate regiment from Zweibruecken contributed to the United States victory at Yorktown in 1781. The forefathers of the American presidents Herbert Clark Hoover and Dwight D. Eisenhower were from our area.

For a long time, Rhineland-Palatinate was known in the world only as a land of fields, wine and forests. Wine is still an important export product. Rhine and Palatinate wines are valued throughout the world. Now we have also succeeded in making Rhineland-Palatinate a modern center of business.

A glance at a map of Europe reveals the central location of our state. But Rhineland-Palatinate is not only centrally located geographically, but is also directly between central Europe's large supply sources and sales markets. There is a crown of industrial centers and markets surrounding Rhineland-Palatinate containing more than 40 million inhabitants.

Now we have also succeeded in making Rhineland-Palatinate a modern center of business.

There is a crown of industrial centers and markets surrounding Rhineland-Palatinate containing more than 40 million inhabitants.

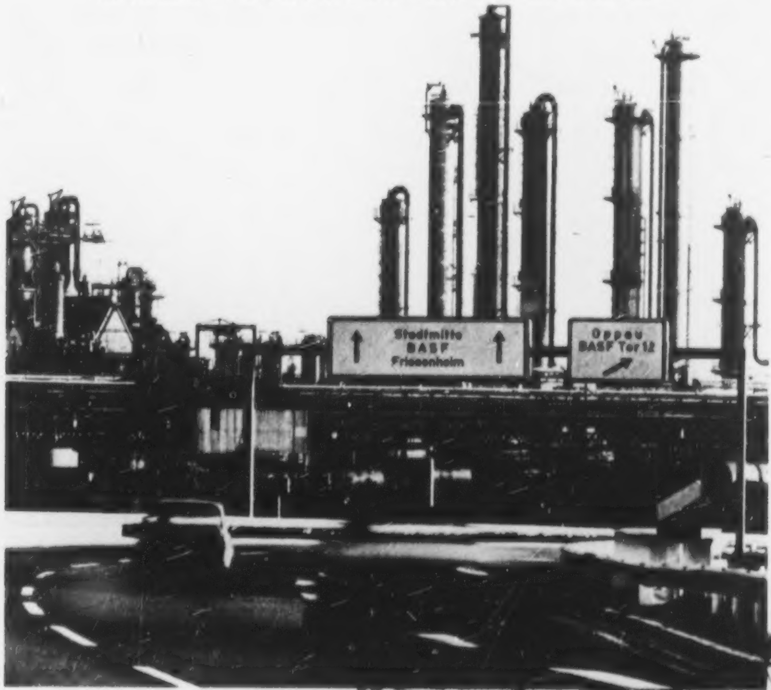
Over 800 kilometers of autobahn highways alone connect all parts of the state with the European express highway network. They assure easy and swift access to all these markets. The Rhine, as Europe's most significant waterway, and the Mosel provide major international shipping routes. In direct close locations ~~to the~~ borders of our state are four airports with attractive national and international connections. This location, convenient to transportation and commerce, and the shift from a land of fields, wine and forests to an area with a healthy mixed structure were significant prerequisites for the present positive economic developments in Rhineland-Palatinate. Based on gross domestic product per employee, our state has worked its way up from last place in 1960 into the top third of the states of the Federal Republic. The respected Prognos-Institut of Basel also predicts favorable economic developments for the future in Rhineland-Palatinate.

One decisive factor for a good economic future is the professional qualifications of the workforce. In the past few years, the government and private business have both made substantial investments in educating and training our youth. Three universities, technical colleges in all fields, and central facilities for professional training have all made contributions. The degree of fluctuation among employees is low. A good social climate prevails in our state.

The favorable economic conditions, stability in economic policy, and great advantages of location have caused foreign trade to play an outstanding role in Rhineland-Palatinate. The measures taken to promote foreign trade have been a significant aspect of our economic policy. Within the scope of government financial assistance, the joint project, "Improvement of the Regional Economic Structure", has a special place. Two-thirds of the geographic area belongs to regions recognized for assistance. Outside these regions, comparable investments are supported through interest assistance programs provided by the state government. Our assistance programs are a good basis for future development. Location sites for business and industry are available statewide for immediate use and on favorable terms. In the assistance regions, the majority of the development costs are borne by the state government. This has a good effect on real estate prices. The Rhineland-Palatinate Economic Assistance Association advises enterprises interested in moving to the area on all questions of site planning. Confidentiality is strictly maintained. This association arranges necessary contacts and also helps in overcoming any administrative problems. In addition, Rhineland-Palatinate maintains an office in Houston to provide more direct contact within the United States. Its purpose is to aid in developing business with the U.S. and also to assist American firms who are interested in joint ventures in Rhineland-Palatinate.

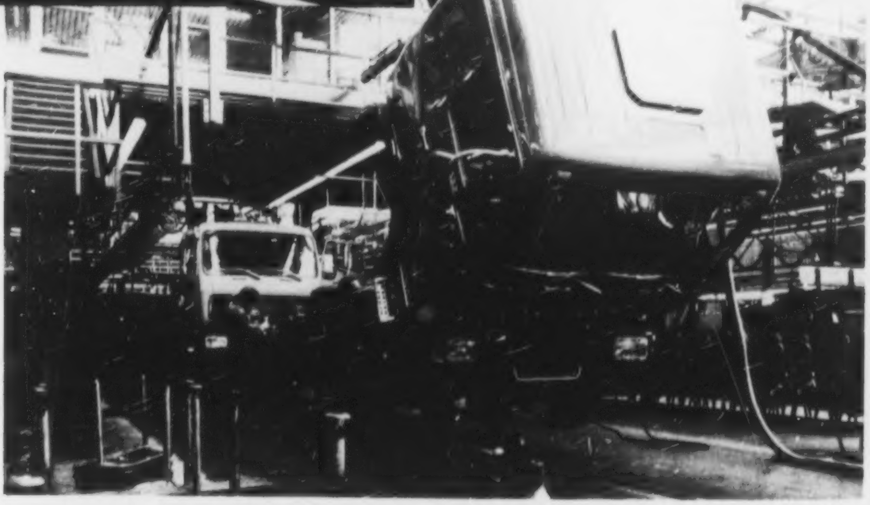
Rhineland-Palatinate maintains an office in Houston to provide more direct contact within the United States.

The chemical industry in Germany is among the foremost in the world.



Today, the attractiveness and competitiveness of a state are also greatly dependent on the climate for developing modern innovations and bringing them on the market. Conditions favorable to innovation are becoming more and more important for economic competitiveness and long-term job security. In order that the enter-

Trucks from Germany for the world.



prises in Rhineland-Palatinate may continue to offer high technological standards on a broad front and increase their competitiveness through innovative breakthroughs, we have adopted policies concerning technology. Necessary infrastructure has been provided at research institutes close to commerce. At the same time, an efficient exchange of information and ideas has been organized between researchers and businessmen. In addition, a well-adapted range of consulting and financial assistance has been developed for innovative firms. Near the Technical University of Kaiserslautern, internationally known for its high standards, a center is being set up for technology-oriented entrepreneurs who are establishing new companies. It is planned that in the near future such a technology center will be created at the University of Mainz, which is known for its scientific research (for example, in the area of polymer chemistry). In the future, we will further increase our support for the development of practice-related innovations.

Many multinational enterprises are already taking advantage of the good innovation and investment climate in Rhineland-Palatinate: BASF, Daimler-Benz, Opel, IBM, Proctor and Gamble – just to name a few. Following construction of the largest European truck factory in Woerth, Daimler-Benz is now building its central spare part warehouse in Rhineland-Palatinate to supply the entire world. Corning Glass Works, the leading company in its sector, chose Kaiserslautern from over 150 European locations for production of ceramic substratas for exhaust catalytic converters. Since 1969 more than 3,500 companies have chosen to invest in Rhineland-Palatinate. Support of projects through government assistance has paid off: more than 10,000 new jobs have been created through these initiatives. This all makes it clear that everything is in favor of locating in Rhineland-Palatinate. Investments will pay off in our young state with a promising future! ■

> **Many multinational enterprises are already taking advantage of the good innovation and investment climate in Rhineland-Palatinate. . .**

DEUTSCHE ZUSAMMENFASSUNG

Der Besuch des amerikanischen Praesidenten Reagan im Jahre 1985 in Rheinland-Pfalz hat einen tiefen historischen Bezug. Denn schon seit langer Zeit existieren enge Beziehungen zwischen Rheinland-Pfalz und den Vereinigten Staaten.

Rheinland-Pfalz ist bekannt als Land der Aecker, Reben und Waelder. Seine Weine werden ueberall in der Welt geschaetzt. Es ist aber auch ein moderner Wirtschaftsraum. Es ist ein zentraler Punkt zwischen den grossen Zuliefer- und Absatz maerkten in Mitteleuropa. Um Rheinland-Pfalz herum liegt ein Kranz von Industriezentren mit mehr als 40 Millionen Einwohnern.

Gute Verbindungen zum europaeischen Fernstrassennetz, Zugang zu den bedeutendsten europaeischen Wasserstrassen und in unmittelbarer Grenznaehe gelegene Flughaefen mit nationalen und internationalen Verbindungen garantieren einen problemlosen und schnellen Zugang zu europaeischen Maerkten. Bedingt durch die guenstige Lage und die gesunde Mischstruktur hat sich das Bundesland vom letzten Platz im Jahre 1960 in das obere Drittel der Bundeslaender emporgearbeitet, und seine wirtschaftliche Entwicklung wird guenstig eingeschaetzt. Fuer die gute wirtschaftliche Entwicklung ist die berufliche Qualifikation des Nachwuchses ein entscheidender Faktor. Die Fluktuationsneigung der Arbeitnehmer ist gering und das soziale Klima gut.

Dem Aussenhandel kommt eine hervorragende Rolle fuer das Bundesland zu. Massnahmen zur Foerderung des Aussenhandels stellen einen wesentlichen Akzent der Wirtschaftspolitik dar. Eine besondere Stellung unter den staatlichen Finanziergungshilfen kommt der Gemeinschaftsaufgabe der "Verbesserung der regionalen Wirtschaftsstruktur" zu, zu deren Foerderungsgebiet zwei Drittel der Landesflaeche gehoeren. Landeseigene Zinszuschussprogramme, vorhandene Ansiedlungsareale fuer Industrie und Gewerbe und ueberwiegende Uebernahme von Erschliessungskosten in den Foerderungsgebieten sind eine gute Grundlage fuer die kuenftige Entwicklung. Die Beratung ansiedlungsinteressierter Unternehmen durch die rheinland-pfaelzische Wirtschaftsfoerderungsgesellschaft und Hilfestellungen bei Geschaeftsentwicklungen mit den USA sowie fuer amerikanische Firmen sind ebenfalls gewaehrleistet.

Die Attraktivitaet und Wettbewerbsfaehigkeit von Rheinland-Pfalz haengt heute auch entscheidend von der Beherrschung der Entwicklung und marktgerechten Umsetzung von zukunftstraechtigen Innovationen ab. Rheinland-Pfalz hat in diesem Bereich technologie-politische Vorsorge getroffen.

Eine leistungsfaehige Infrastruktur an wirtschaftsnahen Forschungseinrichtungen ist geschaffen und ein effektiver Austausch von Informationen und Ideen zwischen Wissenschaft und Wirtschaft organisiert worden. Zentren fuer technologieorientierte Unternehmensgruendungen sind im Entstehen begriffen bzw. geplant.

Seit 1969 haben sich mehr als 3.500 Unternehmen fuer eine Investition in Rheinland-Pfalz entschieden, darunter auch Firmen von internationalem Rang wie BASF, Daimler-Benz und IBM. Die Foerderung der Projekte hat sich durch die Schaffung von mehr als 100.000 Arbeitsplaetzen bezahlt gemacht. Dies alles macht deutlich: alles spricht fuer einen Standort in Rheinland-Pfalz. Die Investitionen lohnen sich in diesem Land mit guter Zukunft!

Texas . . . a Land of Growth and Opportunity

by Mark White
Governor
State of Texas

Texas often brings to mind images of cowboys and oil derricks. These images represent the first two eras of the Texas economy: the development of our cattle industry in the 19th century and the exploitation of oil in the 20th century.

While ranching remains an important part of Texas heritage and our economy, and while the production of oil and gas has become a bedrock for the Texas economy, Texas is a far more diverse state than many people realize. One of the first words transmitted from the moon to earth was "Houston." As he stepped onto the moon, Neil Armstrong called back, "Manned Spacecraft Center, Houston. Tranquility base here. The Eagle has landed."

Today, on the eve of our 150th anniversary, we are embarking on a new era of the Texas economy. Building on the prosperity of the past, we are broadening our economy by new developments in high-technology industry, manufacturing, and international business.

International Business in Texas

Although Texans have traditionally considered their State a land unto itself, Texas is far more involved in international commerce than many people realize. In 1981, Texas ranked fourth nationally in agricultural exports. One dollar of every four earned by Texas farmers came from exports. In terms of manufactured exports, Texas ranked second in the nation in 1981. One of every eight jobs in manufacturing in Texas were directly or indirectly related to exports. With the nation's second largest port in total mechandise located in Houston, and with two of its finest international airports based in Houston and Dallas-Ft. Worth, Texas is also emerging as an attractive hub for growing international trade.

Texas is far more involved in international commerce than many people realize.

Located almost at the exact center of the United States coast-to-coast growth corridor, Texas is an ideal site for new and expanding businesses to locate. Texas has many attractive features for foreign investors. Texas offers a large variety of natural resources. We have a stable and skilled workforce, comfortable with working in a "right to work" state in a spirit of harmony with management. Texans are among the most productive workers in America. The Texas total of $45.1 in value added per worker for 1982 led all the industrial states and is substantially higher than the national average of $36.9. We also have a favorable business climate without state corporate or personal income taxes. We remain firmly opposed to unitary taxation.

Finally, many cost-reducing arrangements are possible, including the use of maquila (twin) manufacturing plants along the Texas-Mexico border to lower labor costs and the use of foreign trade zones to reduce import tariffs.

There are 15 foreign trade zones in Texas, the largest number in any state.

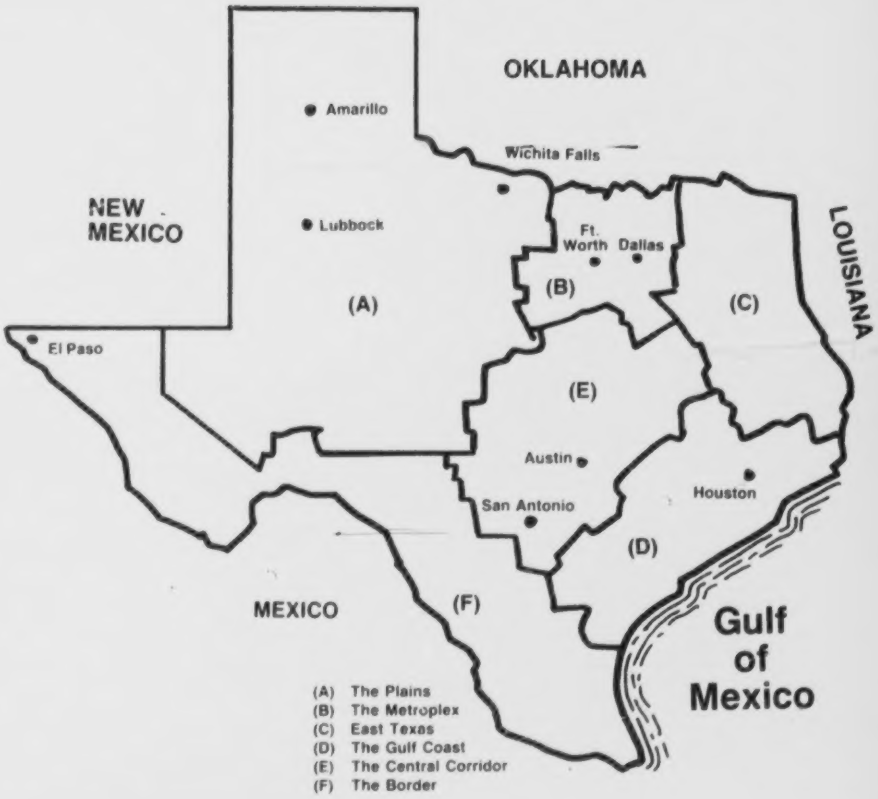
A good example of such an arrangement is found in Dallas-Ft. Worth where a major producer of computers uses the Dallas-Ft. Worth Foreign Trade Zone to complement its twin-plant operation in Guadalajara, Mexico. Materials, parts, and components for the fabrication of computers and peripheral equipment are ordered from sites around the world and stored in Dallas-Ft. Worth duty-free. The goods are then shipped to the Guadalajara production facility, again duty-free, where the computers and peripheral equipment are assembled at very low labor costs. The finished products are returned to Dallas-Forth Worth, taxed only on the basis of value added in Mexico, inspected and stored, and then distributed throughout the world.

There are 15 foreign trade zones (FTZ) in Texas, the largest number in any state. Foreign trade zones are designated by the State Legislatue and approved by the U.S. Department of Commerce. The activities carried out in a foreign trade zone depend upon the companies located in the zone. Goods entering a FTZ may be stored, sold, relabeled, processed, assembled, manufactured, or re-exported. Goods which are exported outside the United States from a FTZ are not subject to U.S. customs duty, while goods shipped from the FTZ into the U.S. market are taxed on the basis of the value added in the FTZ.

The FTZs in Texas are located in three distinct areas. Three FTZs – San Antonio, Dallas-Ft. Worth, and Midlothian – are located adjacent to inland ports. Six FTZs – El Paso, Del Rio, Eagle Pass, Laredo, Rio Grande City, and McAllen – are located on the Texas-Mexico border. Four other FTZs – Corpus Christi, Houston, Galveston, and Southeast Texas – are located along the Gulf Coast, while one zone in Brownsville is located on both the Texas-Mexico border and the Gulf Coast.

All told, these and other features create a favorable environment for foreign investment. This is reflected in the statistics of the U.S. Department of Commerce. In 1984, according to the Department's statistics, Texas ranked first nationally in the book value of foreign investments.

As part of our continuing and growing commitment to international business, I signed the Texas World Trade Development Act on May 24, 1985. This law creates a Texas World Trade Council and a Texas World Trade Development Authority that will help Texas businesses in planning and financing the growth of international trade. The World Trade Council will also help representatives of foreign businesses to learn about the potential of Texas and to establish productive relationships with their counterparts in Texas.



Many communities in Central Texas, such as Fredericksburg and New Braunfels, have deep roots in German heritage.

THE REGIONS OF TEXAS

The State of Texas can be divided into six regions: East Texas, the Dallas-Fort Worth Metroplex, the High Plains, the Central Corridor, the Border and the Gulf Coast. These regions vary in their climate and natural resources, and in their heritage and economy.

EAST TEXAS

The economy of East Texas is based on the natural resources of wood, petroleum and coal.

. . .Texas World Trade Council and a Texas World Trade Development Authority. . .will help Texas businesses in planning and financing the growth of international trade.

Almost all of East Texas is covered by what is known as the Piney Woods. This area of dense forestation has long been a significant source of lumber and wood products. In 1982, East Texas produced 339 million cubic feet of wood, 76 percent of the total timber production in Texas. Employment in lumbering and wood products manufacturing provides about 20,000 jobs region-wide.

THE DALLAS-FORT WORTH METROPLEX

The Dallas-Fort Worth Metroplex (DFW), located in the north central portion of Texas, is the most diversified of the six regional economies. It has come to be dominated by manufacturing, commerce, services and finance, even though it is an area with abundant natural resources and well-suited for agriculture. A healthy durable goods manufacturing sector provides almost 15 percent of the region's total employment.

Of particular importance within this broad category of manufacturing is the production of electronics, aerospace and military hardware. Many of the nation's leading electronics firms have established plants in the region to manufacture sophisticated telecommunications systems, navigational aids, microwave data systems and electronic data processing equipment. Defense outlays alone, primarily for military hardware, totaled $4.1 billion in 1980, 41 percent of the defense outlays for the state.

THE PLAINS

The economy of the Plains, like that of East Texas, is tied closely to its natural resources. The discovery of the West Texas oil fields in the 1930s, the intensive utilization of water from the Ogallala Aquifer for agricultural irrigation, and a strong demand for petroleum and agricultural products have been the determinants of the strong economic growth of the Plains over the past 40 to 50 years.

THE BORDER REGION

The Border Region of Texas stretches from Brownsville, the southernmost point in Texas, to El Paso, the farthest west, along the international boundary of Texas with The Republic of Mexico. Within the Border Region, there are four metropolitan areas: El Paso, McAllen-Edinburg, Brownsville-Harlingen, and Laredo. Although each of these communities has distinct traditions, they share a semitropical climate, Mexican heritage and cuisine, and various recreational attractions that create a pleasant way of life.

The twin plant, or maquiladora, program is important to the Border's economy. Manufacturers in Texas establish twin plants in Mexico. A twin plant receives and assembles components from a manufacturing facility in Texas, then ships the final product back into the U.S. for sale. The maquiladora program also permits the duty-free entry of raw materials, components, equipment, machinery, and tools into Mexico. When the finished goods are later exported to the U.S., customs duties are limited to the value added in Mexico.

THE CENTRAL CORRIDOR

The Central Corridor is centered around the cities of Waco, Austin, and San Antonio. Many communities in the Central Corridor still retain a distinctly European flavor from the German, Scandinavian, and Central European immigrants who settled in the area at the turn of the century. The principal economic centers of the region, with the exception of Bryan-College Station in Barzos County, lie along Interstate 35 between San Antonio and Waco. Two of the major cities in the Central Corridor, Austin and San Antonio, have been identified as among the 10 "cities of great opportunity" in the United States by the author John Naisbitt in his book *Megatrends*.

THE GULF COAST

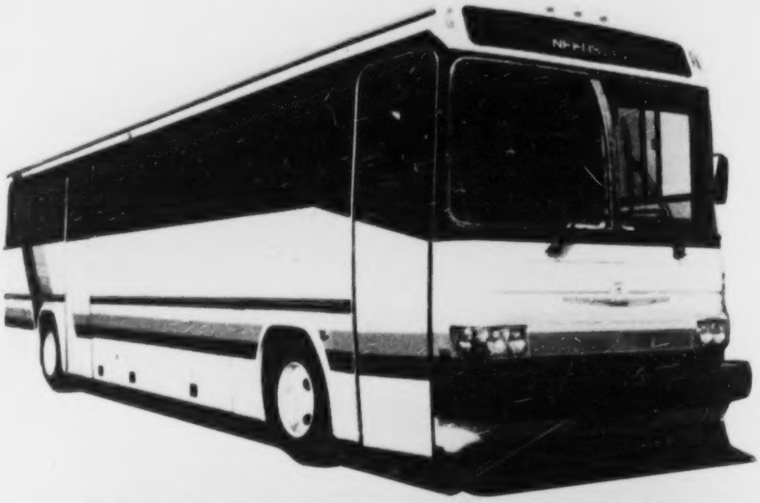
From the cities of Beaumont to Corpus Christi, the Gulf Coast is united economically by the dominating presence of the petroleum, petrochemical, and related industries. The discovery of oil at Spindletop, near Beaumont, in 1891, sparked the first Texas oil boom and beginning of the oil industry in Texas. Houston, set between the East Texas timberlands and the Gulf of Mexico, became a center for producing oil drilling equipment, refining oil, and transporting petroleum and oilfield products via rail and sea.

HIGH-TECHNOLOGY INDUSTRY

Texans have realized that we cannot rely exclusively on oil and gas production and that we must further diversify our economy if we are going to guarantee prosperity for future generations. One of the most exciting developments, in this regard, is the dramatic growth in high-technology industry.

The number of high technology businesses in Texas grew from 1,600 to more than 4,000 in the past five years, making Texas the nation's growth leader. These companies range from multinational leaders such as LTV, Exxon, Tracor, Tandy Corporation, and Texas Instruments to small research companies. There are at least 75 venture capital organizations in Texas which have over $528 million of capitalized funds available for venture investment.

With major organizations such as the Johnson Space Center, Ford Aerospace, LTV, Texas Instruments, and Tracor located in Texas, Texas has traditionally been strong in high-technology industry. Recently, leading technology companies such as 3M, Motorola, and Cinergy have decided to move major research and development operations to our State. Today,



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Texas is at the cutting edge of new technologies in microelectronics, artificial intelligence, robotics, biotechnology, medicine, energy, lasers, and telecommunications.

As part of the State's commitment to advanced technology, I recently appointed the Texas Science and Technology Council. This council is composed of leaders from business, universities, and state government. It will work to develop policies and programs that will enhance high technology in Texas. We also recently funded the Texas Advanced Research Program, under which $35 million has been allocated to state universities to conduct basic and applied research in the areas of aerospace, biotechnology, energy, microelectronics, telecommunications, and materials.

Houston has become a major center for space technology. The Johnson Space Center planned and guided man's first trip to the moon. Today, the Space Center is the NASA command center for the Space Shuttle and has been named the lead institution for the Space Station program, an $8 billion project targeted for orbit in 1992. Ford Aerospace builds communications satellites outside of Houston, and Space Industries, Inc., of Houston, has been awarded the prime contract by NASA for the first private industrial space facility designed for continuous operation in low earth orbit.

An Invitation to Visit Texas

Texas will be celebrating its Sesquicentennial during the year of 1986. There will be celebrations and events of historic significance throughout the year as Texans celebrate their cultural heritage. Many communities in Central Texas, such as Fredericksburg and New Braunfels, have deep roots in German heritage. German settlers fought for Texas independence and helped build the State as we know it today.

As Governor of Texas, I want to issue a special invitation to business from around the world to visit Texas to participate in our celebration. I also want to urge them to contact the Governor's Office or the Texas Economic Development Commission during their visit to learn about the opportunities and potential within our State.

In addition to the federally sponsored programs found in other states, the State of Texas offers several programs to assist businesses interested in locating in Texas. Our Small Business Revitalization Program, adminstered by the Texas Economic Development Commission, can provide expert advice from financial brokers who can provide business credit analysis, creative financial packaging, and cash flow projections. State offices will help obtain the relevant state and federal permits and approvals for a company's operations. The state govern-

Since its founding 150 years ago, Texas has been a land of opportunity where people dared to build their dreams.

ment will also work in partnership with local communities to locate facilities for lease or purchase and to identify local sources of capital that might be available.

The Governor's Office also stands ready to assist in screening and providing referrals of workers with desired skills and experience. We can generate resources to provide assistance for the training or retraining of workers, including salary supplements for on-the-job training, reimbursement of company trainees who provide training for their new workforce, and additional training delivered through local high schools, trade and technical schools, and community colleges.

Since its founding 150 yeras ago, Texas has been a land of opportunity where people dared to build their dreams. I sincerely hope that your readers will accept my invitation and experience Texas hospitality. I believe they will discover first-hand that Texans are a determined and energetic people who are meeting the challenge of the future and who are taming the newest frontiers of business. ■

DEUTSCHE ZUSAMMENFASSUNG

Texas bedeutet fuer die meisten Leute nur Cowboys und Oel. Die Entwicklung zeigt jedoch, dass eine neue Aera der texanischen Wirtschaft angebrochen ist.

Texas kann man in sechs Regionen unterteilen: Osttexas, die Dallas-Fort Worth Metropole, High Plains, der zentrale Korridor, die Grenzregion und die Golfkueste.

Die wirtschaftliche Struktur von Osttexas wird von ihren natuerlichen Resourcen—Wald, Petroleum und Kohle—bestimmt. Im Jahre 1982 stellte Osttexas 76% der gesamten Holz-, 12% der Rohoel- und 10% der Erdgasproduktion von Gesamttexas. Mitte 1984 waren ungefaehr 15.000 Osttexaner in der oel- und gasfoerdernden Industrie beschaeftigt. Neben den natuerlichen Resourcen traegt die positive Einstellung der Bevoelkerung zur Industrie in starkem Masse zum industriellen Wachstum der Region bei.

Die Dallas-Fort Worth Metropole im Norden von Texas ist ein wichtiges Handels- und Finanzzentrum. Schaetzungen der Wirtschaftsministeriums ergaben, dass das jaehrliche Pro-Kopf-Einkommen den nationalen Durchschnitt um 16% uebersteigt. Dallas und Fort Worth sind sehr unterschiedliche Staedte. Dallas ist hauptsaechlich ein Zentrum von Banken und anderer verwandter Wirtschaftszweige; es ist auch fuehrend in der Kunst-, Mode- und Filmbranche. Fort Worth ist mehr ein Industriezentrum und der Sitz von Oelgesellschaften, Verteidigungsindustrien und Baugesellschaften. Beide Staedte sind ein beliebtes Ziel von Touristen und Kongressteilnehmern. Handel und Tourismus werden durch die hervorragenden Verkehrsmoeglichkeiten gefoerdert; der Dallas-Fort Worth Regionalflughafen ist der groesste der Welt.

Die wirtschaftliche Entwicklung der Region High Plains wird sowohl von ihren Oelvorkommen als auch von ihrer Landwirtschaft bestimmt. Im Jahre 1983 kamen 66% der Oel- und 41% der Gasproduktion von Texas aus der Plains-Region, und auf dem landwirtschaftlichen Sektor wurden in diesem Zeitraum 39% der texanischen Gesamtproduktion erzielt.

Landwirtschaft und Fischereiindustrie sind die bestimmenden Industriezweige der Grenzregion. Die Gruendung von transnationalen Gesellschaften mit Produktionsstaetten im nahegelegenen Mexiko ermoeglicht die preiswerte Herstellung von elektronischen Produkten, da die Arbeitsloehne erheblich niedriger sind. Momentan gibt es ca. 600 solcher Gesellschaften, die insgesamt mindestens 245.000 mexikanische Arbeiter beschaeftigen.

Waco, Austin und San Antonio sind die wirtschaftlichen Schwerpunkte des zentralen Korridors. Waco ist ein Bankenzentrum und Verkehrsknotenpunkt. Austin, die Hauptstadt des Staates, ist eine der schnellst expandierenden Staedte der Nation. Ihre Bedeutung gewinnt sie hauptsaechlich durch den staendig expandierenden Dienstleistungs- und Verwaltungsbereich. San Antonio, die zehntgroesste Stadt der Vereinigten Staaten, ist der Sitz des groessten Militaerkomplexes der Nation, der 79.000 Arbeitsplaetze auf dem militaerischen und 55.000 auf dem zivilen Sektor stellt.

Die dominierenden Wirtschaftszweige der Golfkueste sind die Petroleum- und die petroleumverarbeitende Industrie. Grosse Bedeutung hat auch die Touristikindustrie; in Galveston ist ein neues Erholungsgebiet geplant. Die US-Marine waehlte im Juli 1985 Corpus Christi als Stuetzpunkt fuer ihr Kampfschiff U.S.S. Wisconsin; der neugeplante Hafen wird dieser Region in den naechsten zehn Jahren ca $1,2 Billionen einbringen.

Die Anzahl der High-Tech-Betriebe in Texas ist in den letzten fuenf Jahren von 1 600 auf ueber 4.000 gestiegen. Wichtig war in diesem Zusammenhang die Entscheidung der Microelectronics and Computer Technology Corporation, sich in Austin, Texas, niederzulassen. Diese Organisation, der u.a. Control Data, Honeywell und Sperry angehoeren, ist eine Forschungsgruppe, die sich mit laengerfristigen Untersuchungen ueber Computer beschaeftigt. Kuerzlich wurde die Texas Science and Technology Corporation gegruendet, deren Ziel es ist, das Wachstum der High-Tech-Industrie in Texas zu foerdern. Auch die University of Texas traegt finanziell und durch Forschung sehr zu der Weiterentwicklung der High-Tech-Industrie in Texas bei. Texas ist auch auf dem Exportsektor nicht untaetig. Es steht z.B. auf dem landwirtschaftlichen Gebiet an vierter Stelle der nationalen Exportliste, bei der Verarbeitungsindustrie sogar an zweiter Rangstelle. Diese wichtige Stellung verdankt es zum einen seiner geographischen Lage im Zentrum der Vereinigten Staaten, zum anderen den hervorragenden steuerlichen Gegebenheiten. Der am 24.5.1985 ratifizierte Texas World Trade Development Act stellt einen weiteren Schritt zur Foerderung von internationalen Handelsbeziehungen in Texas dar. Im Jahre 1986 feiert Texas sesine 150-jaehrige Gruendung. Aus diesem Anlass werden zahlreiche Veranstaltungen stattfinden.

INDUSTRIAL HIGHLIGHT

Energiegeuenstige Beleuchtung durch deutsche Technologie fuer amerikanische Verbraucher

Energy Efficient Lighting from German Technology for American Consumers

by Lawrence P. Carr
President
Osram Corporation

Imagine for a moment that you are entering a totally new type of architectural environment where form, color and light are delicately balanced; where ambiance and mood are products of visual perception; where spatial features are deliniated by light. Today's imaginings are rapidly becoming reality as we enter a revolutionary new era in architecture which uses technologically advanced lighting sources as an integral part of the design process. Superior color rendition, energy efficiency, design versatility: these are just a few of the qualities which characterize this new technology. American and German lamp manufacturers have played a major role in developing these light sources and are now bringing them to market in the United States. A key factor in their acceptance has been the growing demand for high quality, energy efficient lamps which provide the look and feel of incandescent lighting.

"Hell wie der lichte Tag"– Bright as the Light of Day

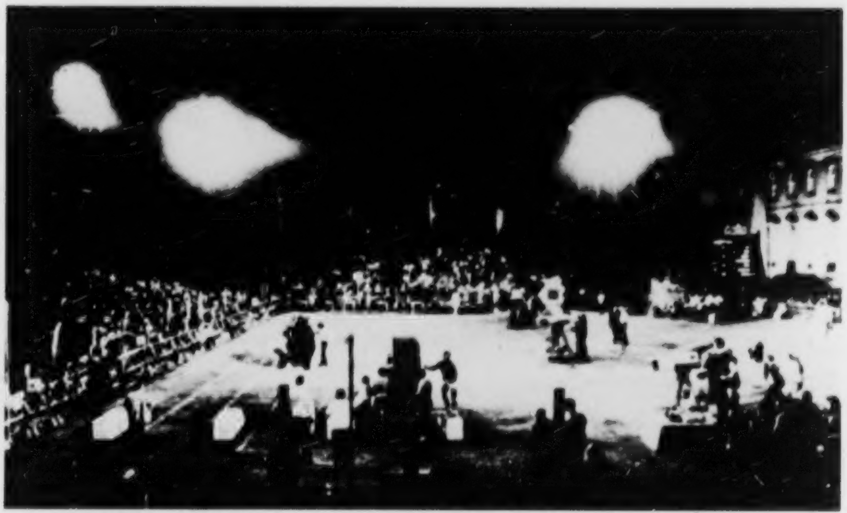
Electric light. Most of us take for granted that, with the flick of a switch, we can illuminate our world 24-hours a day. Because electric light is so commonplace, improvements on the basic source, the Edison bulb, were largely ignored until recent years. However, the 1973 Oil Embargo changed all that.

Energy efficiency became the byword of the 1970's. . .

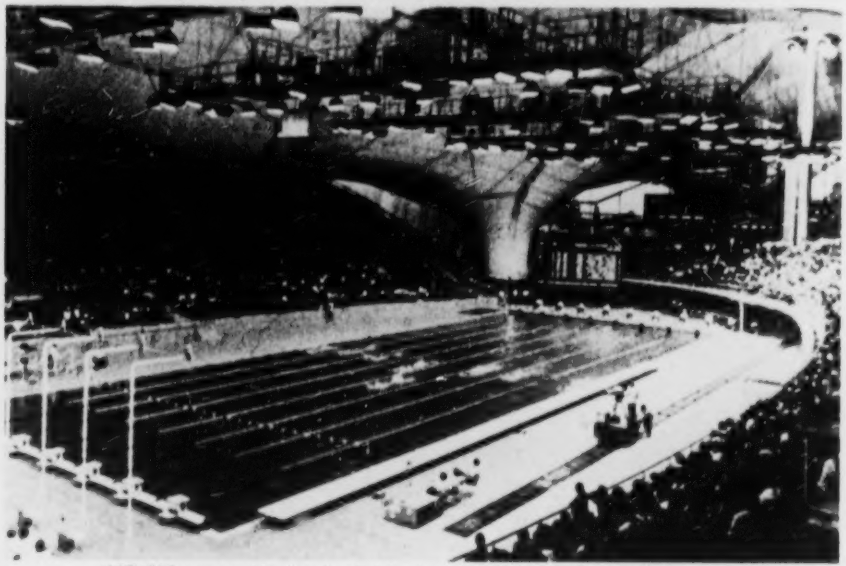
Sharply rising fuel costs, inflation, and high interest rates increased the cost of electricity to such a degree that the world was forced to think about alternative sources of energy and ways to reduce existing energy loads. Energy efficiency became the byword of the 1970's and, in the lighting industry, it spurred the development of new sources which not only save energy, but also last longer than conventional household incandescent lamps.

Electrial Utilities: Rising Costs and Declining Revenues

Prior to 1973, many Americans believed that our natural resources sprang from an endless reserve. Between 1945 and 1970, the cost of electricity decreased at an annual rate of 4.9 percent, while our electrical consumption increased at an annual growth rate of 7.2 percent.[1] Energy was plentiful and we were all encouraged to use our share. However, statistics between 1970 and 1981 reflect a much different picture. During this period, the cost of residential electrici-



Originally developed for West German television, HMI lamps illuminate TV and motion picture productions around the world.



OSRAM lamps provide glare free lighting in sporting arenas and recreation areas.

ty increased at an annual rate of 1.6 percent, while our electrical consumption decreased annually by 2.1 percent. We were using less energy and paying more for it.

Electrical utilities were faced with a dilemma. Reluctant to cut back on construction programs, they relied on forecasts which predicted a resurgence[1] in electrical consumption. This only increased their losses. By the late 1970's, the utilities were forced to listen to the market indicators. Construction programs were delayed or cancelled and the companies began to put some of their resources into alternative programs. Load management, which encourages customers to alter their energy use through conservation and efficiency improvements is one such alternative which is positively affecting the lighting industry. In the state of California, for example, incentives are provided to certain customers who retrofit existing incandescent fixtures with energy efficient fluorescent lamps and high intensity discharge lamps.[2] We can expect to see more incentive programs designed to help customers cut down on energy usage as utilities concentrate on lowering their debt and carrying charges by containing new construction.

New Light Sources: Compact Fluorescent Lamps

Although the energy crisis did not impact Americans until the 1970's, Europeans have long been familiar with the problems associated with high energy costs. Fuel shortages, coupled with the demands of post-World War II recovery, forced Europeans to be more energy conscious and to concentrate on ways to reduce energy consumption. Fluorescent lighting found its first major commercial use in the factories of the 1940's. However, many of the technological advancements on the fluorescent source were the result of European research and ingenuity.

. . .the compact fluorescent lamp is the most dramatic new light source now being used in the United States.

From the standpoint of energy savings, the compact fluorescent lamp is the most dramatic new light source now being used in the United States. Consuming 70 percent less power than a standard A 19 incandescent lamp, the bulbs last 10 to 13 times longer. While figures are not yet available on the number of compact fluorescent lamps shipped since 1980, we can tell by the overall growth of the fluorescent lighting market (compounded annual growth rate of 10.6 percent[3]), that these lamps are having a positive impact. They are referred to as "DULUX™" lamps.

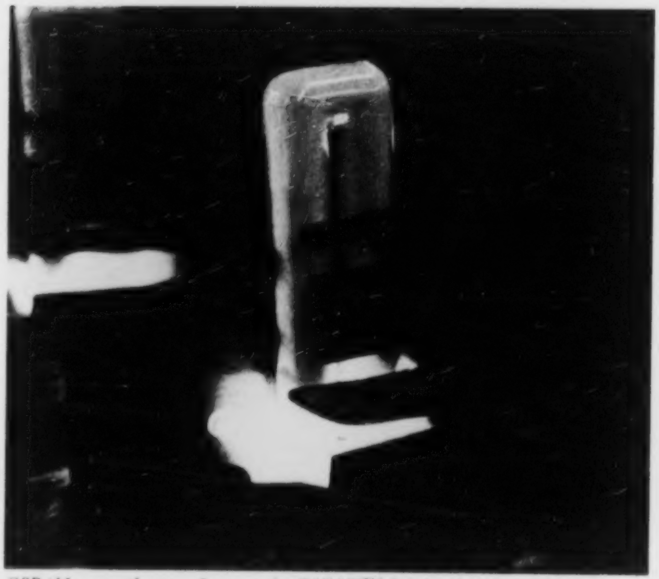
What distinguishes the new compact fluorescent lamps from the traditional fluorescent tubes is their warm and pleasing light. With a color temperature of 270K and high color rendition, the lamps have the look and feel of incandes-

In the state of California, for example, incentives are provided to certain customers, who retrofit existing incandescent fixtures with energy efficient fluorescent lamps and high intensity discharge lamps.

cent lamps without the greenish tint or harsh color normally associated with fluorescents. The standard versions of these lamps are available in 5W, 7W, 9W and 13W sizes and have equivalent light output to 25W, 40W and 60W standard incandescent lamps. These standard compact fluorescents can be used in small fixture applications, such as desk lamps, exit signs and night lamps. They are also used effectively in round-the-clock applications, such as lobbies, stairwells, garages and corridors. These are some of the areas in which commercial users will find the greatest payback on their investment.

A new generation of compact fluorescent lamps called DULUX™ D, was introduced in July of 1985. A 4-tube version of the standard compact fluorescent, this lamp was specifically designed for commercial and residential markets. Compared with the twin tube design, the quadruple tube allows the manufacturer to produce lamps with higher light output and shorter lengths. This is a tremendous breakthrough because we can now match the light output of standard size household bulbs while consuming 70 percent less power. The lamps are available in 10W, 13W, 18W and 26W sizes and have light output, color appearance and color rendering equivalent to 40W, 60W, 75W, and 100W incandescent lamps. While a 100W incandescent has an average rated life of 1000 hours, DULUX D will last up to 10,000 hours.

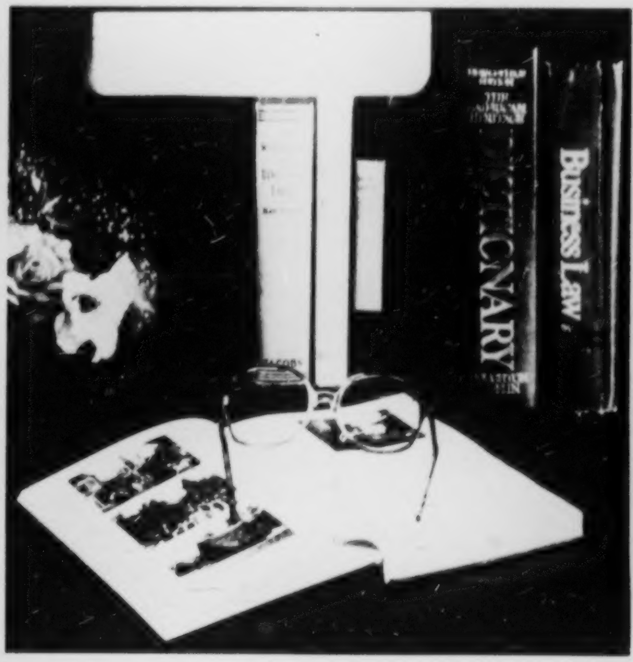
All fluorescent fixtures require ballasts to start the lamp and control the flow of energy. Ideally, the ballast is incorporated into the design of the lighting fixture, but small, plug-in ballasts, similar to calculator transformers, are available. Many firms are in the process of introducing new families of fixtures designed around new generations of compact fluorescent lamps. In addition, retrofit kits allow the user to screw an adaptor that accepts a DULUX lamp into many existing incandescent fixtures.



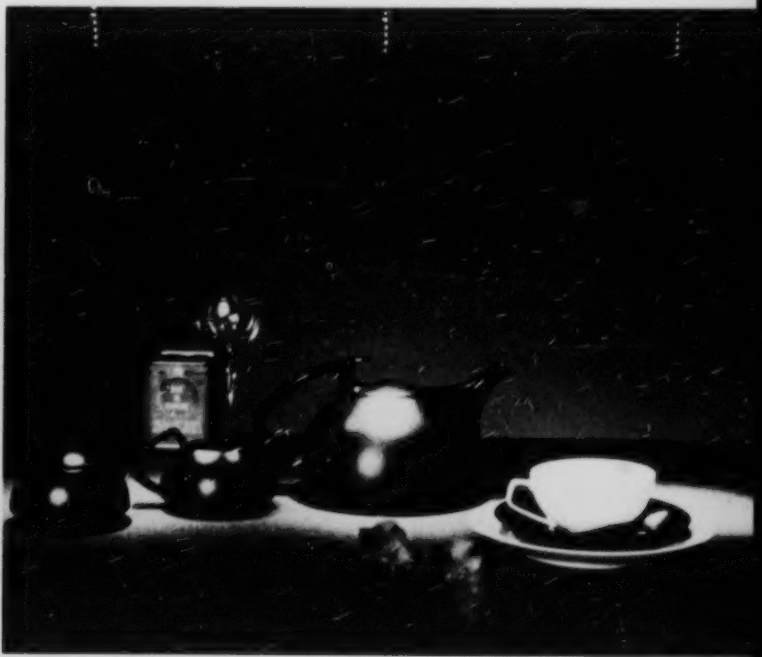
OSRAM currently manufactures the DULUX™ family of compact fluorescent lamps in Maybrook, New York.

As compact fluorescent lighting becomes more prevalent and consumer demand for the product increases, more and more fixtures will be developed for these lamps. The warm, incandescent-like color (2700K) of the new compact fluorescent lamps makes these lamps ide-

Compact fluorescent lamps are ideal for use in reading lamps and other home lighting fixtures.



Low voltage tungsten halogen lamps accent displays in department stores, art galleries, and homes.



. . .tungsten halogen lamps are an energy efficient alternative to incandescent lighting.

al replacements for fluorescent bathroom and kitchen fixtures; long life is a convenience in hard-to-reach porch fixtures and outside lamps; small size and high lumen output provide attractive lighting in table lamps and recessed downlights.

High Intensity Discharge Lamps

High intensity discharge lamps (HID's) are among the most energy efficient lamps on the market today. These include mercury vapor, low pressure sodium, high pressure sodium and metal halide lamps. Mercury vapor, the least energy efficient of the HID's, have poor color rendition and are rarely used in new construction. Low pressure sodium lamps, developed and used throughout Europe, are very efficient, but used primarily in outdoor and roadway lighting applications, where monochromatic color rendering properties are more tolerable. High pressure sodium lamps are found on roadways and in industrial applications where the high efficiency 35W through 1000W lamps are used for general and localized illumination. Because their color emphasizes pink or yellow hues, high pressure sodium lamps are generally used in areas where color rendering is not that important.

The fourth type of HID source, metal halide lamps, has good color and high energy efficiency. There are two basic types of metal halide lamps, the most common of which is a large lamp with color characteristics close to those of a regular fluorescent lamp. Its application is somewhat limited and its color properties tend to change in the first few hundred hours of life.

The additional type (HQI) was developed in West Germany in 1964. Available in a wide range of wattages, this lamp is extremely compact. Its color is consistent and its color rendering is better than any other HID light source. Lighting designers are currently using HQI lamps in high quality interior and display applications where color and size are important. New, compact fixtures which have precise control of light output are now appearing in the U.S. Applications include general lighting in offices and stores, display lighting in stores, showrooms and museums, and exterior lighting.

The 70W lamp is typical of the HQI series. It has an average rated life of 15,000 hours and a color temperature of 3000K which is close to that of an incandescent. In light output, it will replace a 300W incandescent, and save $84 in energy costs per year (based on 4000 hour burning and 10 cents per kilowatt hour). A 10 month payback is estimated for this lamp.

Tungsten Halogen Lamps

Ideal for accent lighting in homes, department stores or specialty shops, tungsten halogen lamps are an energy efficient alternative to incandescent lighting. These lamps are characterized by their small size and high lumen output, which is maintained throughout their long life. A tungsten halogen lamp will last up to 2,000 hours or 2 to 3 times as long as a household bulb and provide up to 43 percent more light. Since a 100W tungsten halogen lamp is only about 1-¾ inch long, the size of the fixture can be greatly reduced and the light distribution better controlled. 150W and 250W versions of the lamps are available with screw bases for direct replacement of incandescent bulbs.

The latest developments in low voltage tungsten halogen lighting are designed for pin point accuracy in even more energy efficient and smaller fixures. These lamps are currently being used in track lighting in restaurants and clubs, because the lamps can be placed in fixtures which accurately direct the light beam. Many of the tungsten halogen lamps are available with built-in metal reflectors which reflect light and heat forward, away from the base of the lamp, resulting in longer practical life for both lamp and socket.

The U.S. lighting industry has exhibited dramatic growth in the past few years. . .

U.S. Lighting: A Rapidly Growing Industry

The U.S. lighting industry has exhibited dramatic growth in the past few years with the total domestic market for electric lamps exceeding $2.5 billion in 1984. This market grew at a 16.7 percent rate from 1983, and at an 8.02 percent compounded annual rate from 1980. By comparison, the U.S. Gross National Product (GNP), a common measure of economic growth, increased at a 9.2 percent rate from 1983 and at an 8.7 percent compounded rate from 1980.[4]

This upsurge in lighting sales is attributed in part to the trend toward more energy efficient lighting. Commercial building owners and managers have embraced these new, energy efficient lamps as an effective way to cut down on energy and maintenance costs. Local utility companies are supporting this trend by offering considerable incentives to customers who retrofit energy efficient lamps.

Within the lighting industry itself, fixture manufacturers are following the lead of lamp manufacturers and developing appropriate units to be used with the new light sources. Since 1982, the residential fluorescent fixture market has grown at a compounded annual rate of 37.0 percent for non portable units and at a rate of 6.7 percent for portable units.[5] If this is not enough of an indication of the growth of the industry, Lighting World III, the International Advanced Illumination Exposition & Conference held in April, 1985 drew a record crowd of over 10,000, a 30 percent increase over the previous year.[6]

The consumer market is showing signs of following the commercial trend to more energy efficient lighting as well. A recent survey conducted by *New Shelter* magazine asked respondents what energy saving projects they had recently completed. Of those completing the survey, 20 percent said they had replaced incandescent lights with fluorescents.[7]

The Way of the Future

In the past few years, we have not only seen a change in the types of light sources available, but also a change in the way light is used in interior design. Again, the energy crisis was instrumental in making us rethink the way we light commercial and industrial buildings as well as our homes. There has been a shift toward low level general illumination, augmented by task lighting. As a result, we are using fewer watts per square foot and, because the heat build-up is less, we are also reducing air conditioning loads.

Effective lighting can create the illusion of wide open space or a small, intimate area. It can heighten a ceiling or make a room seem warmer or cooler. Entire walls can be washed with light or individual pieces of art can be spotlighted. Through the use of dimmers, the mood of a room changes, from quiet and subdued, to bright and festive.

From a design point of view, compact fluorescent, metal halide and tungsten halogen present an interesting alternative to either incandescent or standard fluorescent lighting. Energy efficiency, pinpoint accuracy and good color rendition make metal halide and tungsten halogen the "designers' choice" for display and accent lighting.

Compact fluorescent, metal halide, tungsten halogen – these are the new European lamps which are changing the way Americans design and see the world around them. Each lamp has a unique function and, in the hands of a knowledgeable consumer, can dramatically accent any interior space. Within the lighting industry, compact fluorescent lamps are regarded as the household bulb of the future, eventually replacing the Edison bulb. The energy efficient properties and incandescent-like color of the lamps makes them the logical choice for those seeking to reduce electrical consumption without sacrificing light.

. . . these are the new European lamps which are changing the way Americans design and see the world around them.

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DEUTSCHE ZUSAMMENFASSUNG

Der Verbrauch von elektrischer Energie, die seit Edisons Erfindung der Gluehbirne die Nacht "hell wie den lichten Tag macht", nahm zwischen 1945-1970 um jaehrlich 7,2% zu. Im Zeitraum 1970-1981 ist der Elektrizitaetsverbrauch um 2,1% pro Jahr gesunken, waehrend die Kosten fuer die privaten Haushalte um jaehrlich 1,6% gestiegen sind. Wir verbrauchen also weniger Energie, muessen aber mehr dafuer bezahlen.

Dieses Dilemma hat das Energiebewusstsein geweckt und dazu gefuehrt, dass energieguenstige Lichtquellen entwickelt wurden. Nach der ersten fabrikmaessigen Verwendung von fluoreszierenden Lichtquellen im Jahre 1940 hat die deutsche und die amerikanische Beleuchtungsindustrie grosse Fortschritte gemacht.

Vom Standpunkt der Energieeinsparung betrachtet stellt die Verwendung von fluoreszierenden Kompaktlampen, wie sie jetzt in den Vereinigten Staaten gebraeuchlich sind, einen erheblichen Fortschritt dar. Sie verbrauchen naemlich 70% weniger Energie, und ihre Lebensdauer ist 10-13 mal groesser als die von herkoemmlichen Gluehbirnen. Im Gegensatz zu den frueher gebraeuchlichen Neonroehren spenden die neuen Kompaktlampen ein angenehmes, warmes Licht.

Seit Juli 1985 gibt es eine neue Generation von fluoreszierenden Kompaktlampen, eine 4-Roehren Version mit groesserer Lichtergiebigkeit. Daneben wurden die sogenannten "High Intensity Discharge Lamps", kurz als HID-Lampen bezeichnet, entwickelt, die zu den energiesparendsten Lichtquellen zaehlen. Sie werden fuer eine Vielzahl von Verwendungszwecken eingesetzt.

Eine energieguenstige Alternative zu den herkoemmlichen Gluehbirnen stellt die Tungsten-Halogen-Lampe dar, die sich durch ein kleines Format und eine hohe Lebensdauer auszeichnet. Die neueste Entwicklung auf diesem Gebiet ist die Niedrigstrom-Tungsten-Halogenlampe, die insbesondere in Restaurants und aehnlichen Etablissements verwendet wird.

In der amerikanischen Beleuchtungsindustrie gab es in den letzten Jahren ein ueberdurchschnittliches Wachstum zu verzeichnen, und der Ausblick in die Zukunft gibt Anlass zu Optimismus. Neue energiesparende Lichtquellen stehen zur Verfuegung und bieten eine breite Palette von interessanten Alternativen fuer die verschiedensten Anwendungsbereiche.

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PROFILES

ABD Securities Corporation

Founded in 1968, ABD SECURITIES CORPORATION is an American investment banking firm with corporate headquarters in New York, and regional offices in Boston, Chicago and Los Angeles. It was one of the first foreign-owned investment firms established in the United States. Two major European banks—Dresdner Bank AG and Bayerische Hypotheken-und Wechsel-Bank AG share the common stock of ABD.

ABD employs about 100 professionals and staff employees in all areas of the investment banking business.

ABD serves the financial needs of European and other international corporate, institutional and individual investors who wish to purchase American securities, obtain American capital financing or operate in the United States and also serves American investors with similar objectives in foreign markets.

Its extensive range of coordinated financial services include institutional services and trading; investment information and research; portfolio management for individuals and institutions; underwriting and international corporate finance.

ABD's primary objective is to service the unique requirements of each client . . . no matter how specialized those needs may be. Its various divisions consistently coordinate their efforts toward a single goal: superior long-term investment results.

The Corporate Finance Division can create investment opportunities for multi-national companies or those who intend to become international. It offers a complete spectrum of investment banking services, and has completed numerous transactions in three primary corporate finance areas: establishing a subsidiary of a joint venture; formulating mergers, acquisitions and tender offers; and raising long-term capital.

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ABD's Portfolio Management Department offers investment counseling and fund management services for both institutional and individual investors including discretionary management, advisory management, and all depository functions including safekeeping of securities, collection and payment of income, and other special services as required by individual and institutional clients. Financial reporting may be adapted to meet varying specific legal requirements. All client accounts are included in a regular monthly review and reporting system.

ABD owns memberships on major United States stock exchanges and combined with its long-standing European relationships and other foreign market contacts, possesses numerous outlets for large block transactions—and can assure institutional and individual investors fast and efficient execution of their orders.

ABD is an important underwriter for public offerings made by major corporations in the United States and in foreign markets, and also serves as Broker/Dealer on numerous equity markets in the Western World; and provides trading, execution and clearance functions for institutional and private clients—on a worldwide basis.

AEG

AEG Aktiengesellschaft, with its headquarters in Berlin and Frankfurt am Main, is a technology group operating worldwide in the field of electrical and electronic machines, systems and facilities for communication and information for industrial and energy technology, for defense and transport, for offices and homes.

AEG has over 73,000 employees and worldwide annual sales of about eleven billion marks. 6,000 employees are involved in research and development. Research investments of about 800 million marks annually are contributing to AEG's technological future.

Manufacturing facilities in 38 cities in the Federal Republic of Germany are providing modern technological products which are successful on international markets. In addition, there are factories in 12 other European and non-European countries.

Worldwide, AEG is represented in 110 countries. 58 majority-owned companies, numerous minority interests, representations and foreign business offices provide contact to the enterprise's foreign customers. The foreign companies make substantial independent contributions in engineering, supply of complete facilities, systems, and components and deliveries for international projects.

In the U.S., the group is represented by AEG Corporation in Somerville, New Jersey. AEG Power Tool Corporation in Norwich, Connecticut also maintains a production plant for electrical tools.

AMERICAN HOECHST CORPORATION, headquartered in Somerville, N.J. achieved sales of $1.76 billion in 1984. The diversified chemicals, plastics and pharmaceuticals producer also gained a record $53.2 million net earnings in 1984.

Hoechst-Roussel Pharmaceuticals Inc., a subsidiary, markets Lasix®, (furosemide) a diuretic, one of the ten most prescribed drugs in the country; Claforano®, one of the newest antibiotics; and Streptase® (streptokinase) which has been called a major breakthrough in treatinng heart attack victims; Diabeta®, oral antibiotic; Trental®, for intermittent claudication; and Merital®, antidepressant. In addition, Hoechst-Roussel has approximately 25 other new drugs in various stages of investigation.

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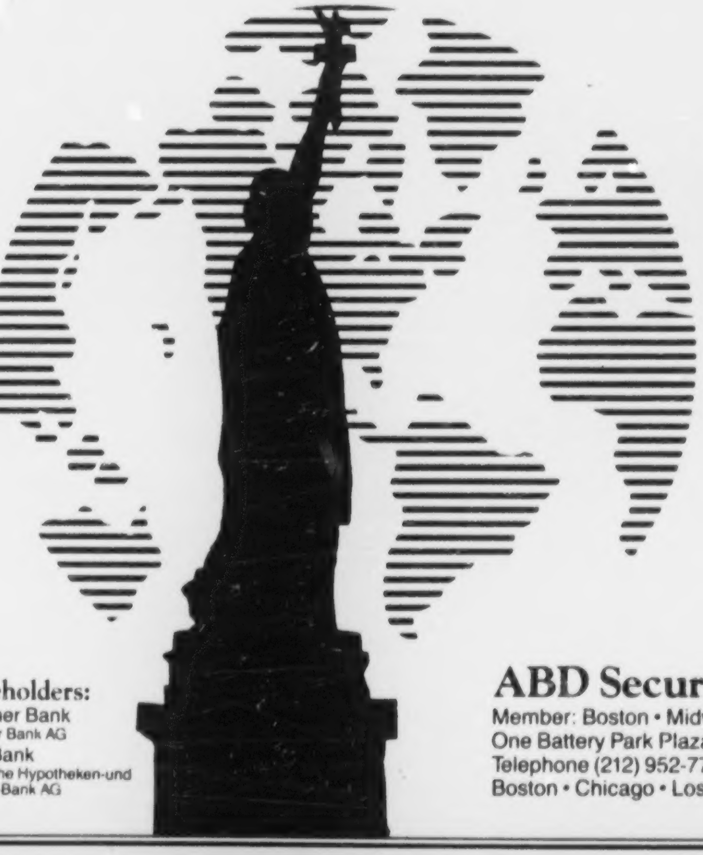

We thank all our clients for 1985 and look forward to your continued success in 1986.

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Audi

AUDI OF AMERICA, INC. is the official importer of advanced-design vehicles manufactured by Audi AG of Ingolstadt, West Germany. Audi of America, Inc. is located in Troy, Michigan, with four regional offices serving multi-state areas. In addition, independent distributors are located near New York City, St. Louis, Missouri and Portland, Oregon.

Audi of America, Inc. was formed out of Volkswagen of America's Audi Division on September 1, 1985. Peter Fischer is the Vice President in charge of Audi of America. The functional areas under Mr. Fischer's supervision include Audi sales, service, advertising, merchandising, public relations and motorsports.

Audi entered the U.S. market only in 1969. In the first full model year of 1970, Audi sold 7,691 vehicles through 138 dealers. In 1984, a record number of 71,206 Audis were sold through 408 dealers.

Audi AG, the manufacturer of Audi automobiles, is located in Ingolstadt, West Germany in the state of Bavaria, just north of the city of Munich. Among the world's automobile manufacturers Audi is known for its product innovation, particularly in aerodynamic design. Audi AG is headed by Dr. Wolfgang R. Habbel, Chairman of the Board of Management.

Audi AG traces its history back to the early portion of this century when in 1909 August Horch left the company he founded under his own name and began a new firm to produce vehicles under the Latin word "Audi." This was a translation of the German word "Horch."

The first Audi vehicle designed by Horch was a sports car—it won its first race in Sweden just three months after introduction.

Audi models of the 1920's became known as technological leaders incorporating many features uncommon for their time presaging today's technologically advanced Audi vehicles.

In addition to importing vehicles and parts, Audi of America, Inc.:

- develops national sales and public relations programs
- produces and places national advertising
- prepares and distributes sales information and technical literature
- develops and supervises training programs for service and sales personnel
- maintains inventory control over replacement parts.

AVIS

AVIS, today, is a nearly $900-million company. At its 430,000-square-foot world headquarters at 900 Old Country Road in Garden City, it employs 1,000 of its 11,400 worldwide corporate staff. Together with over 9,000 licensee employees, they represent Avis at 3,500 locations, including 1,200 airports, in 135 countries.

The Avis story began in 1946 when ex-Air Force officer Warren E. Avis, then a Ford dealer in Detroit, recognized a market potential for linking air travel with the infant car rental business. He opened the country's first airport car rental counter at nearby Willow Run Airport in December, calling it Avis Airlines Rent-A-Car System.

Soon Avis was franchising independent rental operations at other airports across the country. In 1948 the word "Airlines" was dropped from the corporate name as Avis began opening additional outlets in downtown locations.

On July 16, 1962, the firm's headquarters was moved from Boston to Garden City, and by 1965, with the addition of corporate operations in Mexico, Italy, and France, Avis corporate sales had reached $74.5 million.

In 1982 Avis updated its revolutionary slogan: "Trying Harder Makes Avis Second To None." The firm remains the number one car rental company outside the United States and is second among those represented at United States airports.

Since mid-1984 Avis, Inc., of which Avis Rent A Car System is a wholly owned subsidiary, has been a part of Beatrice, the international food and consumer products marketer. J. Patrick Barrett, who came from the Norton Simon organization, is now chief executive officer of Avis, while Joseph V. Vittoria is president/chief operating officer.

Avis' worldwide business interests now include car rentals and leasing, vehicle retail sales, chauffeur drive service, and luxury car rentals.

Besides its own amazing growth, Avis has been the driving force in the opening and expanding of two particular markets: the airport car rental business, and the non-U.S. car rental market, where Avis was literally the first of such companies, particularly in Europe. Its next major market push is under way in the Far East and the Pacific area generally.

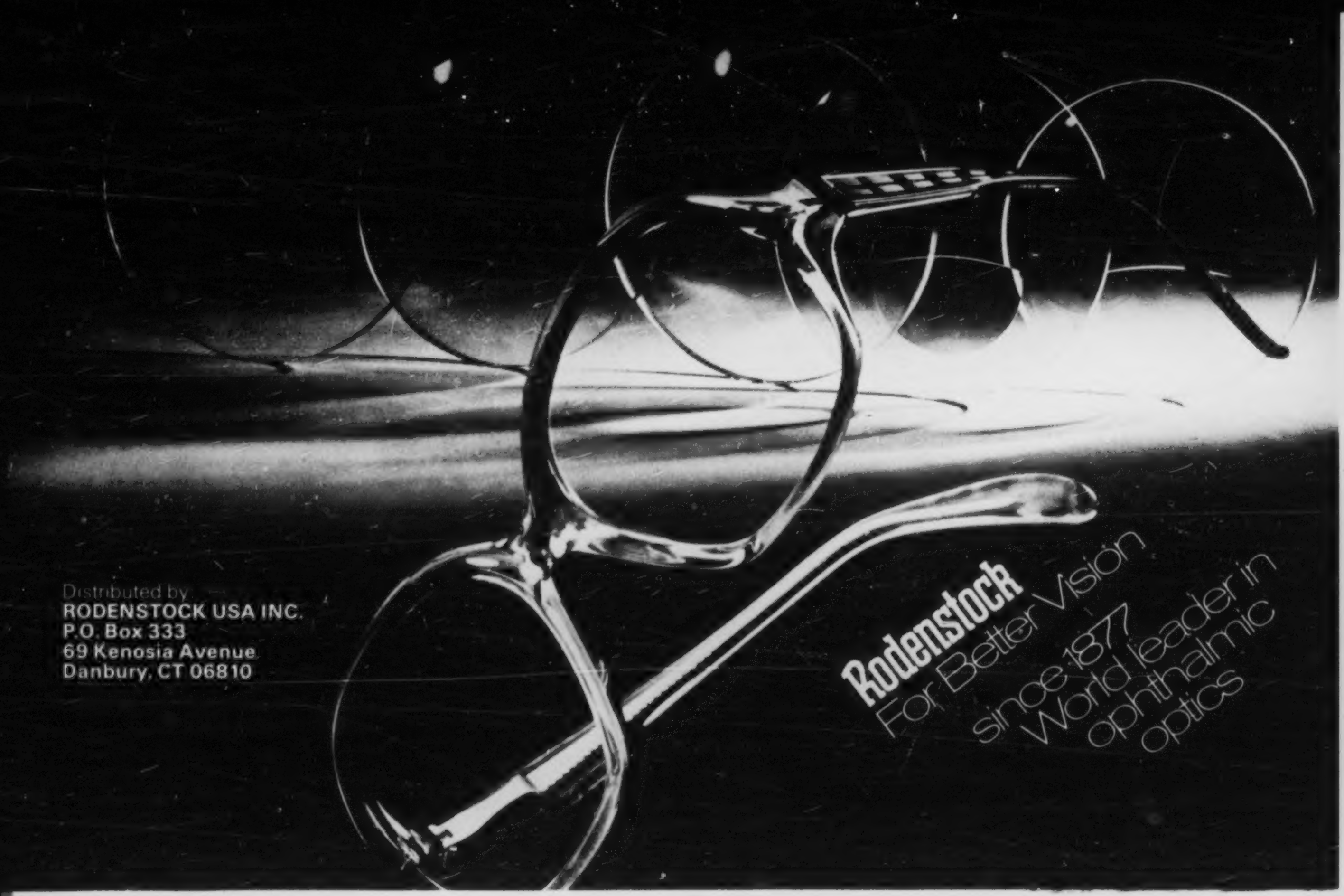
BHF-BANK

BERLINER HANDELS- UND FRANKFURTER BANK

While the story of BHF-BANK dates back to the middle of the last century, its present status results from a merger between Berliner Handels-Gesellschaft and Frankfurter Bank in 1970. As a limited company the Bank is owned by approximately 25,000 shareholders and is directed by its personally liable managing partners. It is a merchant and commercial bank and issuing house, is involved in portfolio management and securities business, and has been active in international finance for more than a hundred years. The Bank, with total assets of more than 28 billion Deutschmarks, thus combines the advantages of a company that has access to the capital market with all the flexibility of a private bank.

The Bank concentrates its creative skills on wholesale banking activities, principally for larger companies. Through the years its proven ability to tailor its facilities to meet the most stringent requirements of its clients and its commitment to efficiency and good service have contributed substantially to the successful development of many companies of all sizes—German and international companies as well as subsidiaries to multinational corporations operating in Germany.

Headquartered in Frankfurt, Germany's financial center, BHF-BANK serves a broad



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and diversified clientele: industrial companies (including nine out of ten top German companies), multinational corporations, government agencies, public entities, international organizations, and financial investors, as well as private customers.

Through its foreign branches in New York, Grand Cayman and Tokyo, its subsidiaries in Luxembourg, Jersey, Zurich and New York, and its representative offices in the major financial centers, BHF-BANK is well positioned to provide its clients with individually packaged financing wherever the need arises.

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Less than ten years ago BMW was regarded as a well kept secret in the United States. The Bavarian marque was recognized and respected within a knowledgeable but small group of enthusiasts, but generally unknown to the casual motorist.

When BMW AG established BMW of North America as its sales subsidiary for the states in 1975, the initial task for the young company was clear: capture the attention of the larger group of consumers who the company was confident would appreciate the way BMW blended German tradition and technical innovation into an active, comfortable and safe driving experience.

The sales record of BMW in the United States over the past ten years shows that the goal was accomplished in dramatic fashion. Vehicle sales have increased more than four fold, from 15,007 in 1974 to 70,898 in 1984. Retail deliveries for this year are projected to surpass 85,000.

While this sales level may not be statistically significant in the multi-million unit U.S. automobile market, BMW's product philosophy and growth rate have enabled it to capture what one automotive journalist characterized as a share of mind which is totally out of proportion with its share of market.

During a decade of recession, gas crisis and a restructuring of the automotive industry, BMW emerged as a leader in the most dynamic part of the American market, the luxury/performance segment.

BMW of North America's marketing strategy since 1975 has focused on elements which are most important to consumers in this market. "The Ultimate Driving Machine" was selected as the way to summarize BMW's engineering philosophy. All BMW models are positioned as cars that deliver intelligent performance and workmanship in engineering excellence, rather than superficial opulence.

BMW was systematically expanded the capacity of its dealer organization in the country over the past ten years by placing emphasis on development rather than sheer growth. Average sales per dealer have increased from 60 in 1974 to 200 this year. By committing more cars to each dealership, BMW can work with each dealer on an investment program to create the personnel, work space and inventory capacities necessary to ensure customer service.

For 1986 BMW offers nine models in the U.S., ranging in price from under $20,000 to over $40,000.

BMW motorcycles, also sold by BMW of North America, feature two engine types: The K-Series, a 100cc, four-cylinder, water-cooled, in-line engine, and the R-Series, two-cylinder "boxer" engine. Motorcycle prices range from $3,700 to over $7,500.

BMW of North America maintains its headquarters in Montvale, New Jersey, a corporate campus community twenty-five miles northwest of mid-town Manhattan. Dealer services are administered through seven regional offices, in the Atlanta, Chicago, Dallas, Los Angeles, San Francisco, Washington, D.C. and New York metro areas.

Parts inventories are maintained in distribution centers in New Jersey, Texas and California. Technicians are trained in six locations around the country.

Gunter Kramer is the chairman and president of BMW of North America.

Baden-Württemberg

The state of BADEN-WUERTTEMBERG is located in the southwestern corner of the Federal Republic of Germany. It is the third largest state, with an area of 35,750 square kilometers and 9.2 million inhabitants. The geographical location represents a particular advantage for both manufacturers and consumers: the major share of all Western European population centers and industrial regions is located within a radius of only 700 kilometers from Stuttgart, the state's capital. Besides the Federal Republic of Germany, a large part of France, the Benelux-countries, Switzerland, Austria and Northern Italy are within this radius. Thus, Baden-Wuerttemberg is located in the heart of Europe, which makes it a center for markets and suppliers, technologies and labor, purchasing power and investment capital.

Its favorable location, the high qualifications of its people and its well-balanced economic structure have made Baden-Wuerttemberg the economically most powerful state of the Federal Republic of Germany and thus probably also in Europe.

But Baden-Wuerttemberg is not only the economically most powerful state of the Federal Republic of Germany; it is also among the states with the most promising growth perspectives.

LEG is Baden-Wuerttemberg's State Development Corporation *(Landesentwicklungsgesellschaft)* and since the beginning of 1985 LEG's Dept. for Industrial Cooperation and Development has been in charge of the promotion of foreign investment in the state. This department also assists small and medium-sized enterprises in finding cooperative partners from abroad and vice versa—a free-of-charge service.

Look to BADEN-WUERTTEMBERG, if you are looking in Europe for:

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- that can handle new technologies
- with proven records of success.

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- skilled labor
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BfG Bank für Gemeinwirtschaft

Established in 1958 with headquarters in Frankfurt, BfG operates as a commercial bank, offering its customers a complete range of 'universal' banking services. With consolidated assets of DM 48.1 billion at the end of 1984 the BfG group ranks among the largest private German banks. It has a staff of 8,576 and maintains a network of 256 offices throughout the Federal Republic of Germany and West Berlin.

In recent years, BfG has also expanded its international banking activities, supported by its subsidiary BfG:Luxembourg, branches in Hong Kong, London, New York and Cayman Islands as well as associated banks in Amsterdam and Basel. A representative office is also maintained in São Paulo. BfG is the only German bank that was engaged in the foundation of a bank in Israel: it holds 39.9 percent of the

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shares of the Israel Continental Bank at Tel Aviv, which has existed for ten years by now.

BfG's shareholders are German trade unions which hold directly or indirectly about 90 percent of its capital through Beteiligungsgesellschaft fuer Gemeinwirtschaft, a holding company of the trade union owned enterprises.

Bayer AG

With more than 400 affiliates and more than 100 manufacturing plants on five continents, BAYER AG, with headquarters in Leverkusen, Germany, is one of the largest chemical and pharmaceutical concerns in the world. Since 1863, when the three-man operation of Friedr. Bayer et Comp. was incorporated in Germany, the company has established a presence in almost all branches of industry as well as in the agricultural and health-care sectors throughout the world.

Bayer's presence in the United States began in 1865 with the production of dyestuffs. Today the company's activities are represented by Mobay Chemical Corp., Miles Laboratories, Inc. Agfa-Gevaert, Inc., Compugraphic Corp., Haarmann & Reimer Corp., and Helena Chemical Co. Combined net sales of these companies in 1984 reached $3.9 billion, an increase of 14 per cent compared to sales in 1983. Thus, for the first time in Bayer's history, North American sales exceeded those in West Germany. Late in 1984, Bayer AG acquired Deerfield Urethane, Inc., a maker of urethane films, based in South Deerfield, Mass.

Building on its dyestuff and pharmaceutical origins, Bayer has opened new vistas to entire industries by developing polyurethane chemistry, engineering thermoplastic based on polycarbonate, synthetic rubber and synthetic fibers.

In the agricultural sector, Bayer pioneered the development of systemic and other phosphorous insecticides and, more recently, has been successful in developing herbicides and fungicides.

Bayer scientists have distinguished themselves with their work in the areas of heart and circulatory diseases, hypertension, infectious diseases, tropical diseases, metabolic diseases and cancer. Prof. Gerhard Domagk, a Bayer scientist, won a Nobel Prize for his discovery of sulfonamides.

Bayer's 175,000 employees, a sales program of about 10,000 products and a wealth of experience that is reflected in almost 136,000 patents and 26,000 trademarks, enabled Bayer in 1983 to achieve worldwide sales of DM 54 billion.

HYPO BANK
Bayerische Hypotheken- und Wechsel-Bank
Aktiengesellschaft

This year HYPO-BANK celebrates the 150th anniversary of its establishment in 1835 in Munich by royal decree of King Ludwig I of Bavaria. HYPO-BANK is Germany's oldest publicly-quoted bank and one of the largest with consolidated assets of more than DM 100 billion.

HYPO-BANK is engaged in both commercial and mortgage banking, operates the largest branch network in southern Germany and is also active nationwide in key business centers such as Berlin, Duesseldorf, Frankfurt, Hamburg, Hanover, and Stuttgart. The bank is a prime address for correspondent banking.

Its New York Branch offers a complete range of corporate banking services including prime and Libor-based loans, foreign exchange, money transfers, letters of credit and documentary collections as well as international private banking. Through other branches in Cayman Islands and London, its wholly-owned subsidiary in Luxembourg,

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If you're conducting business in the United States, or thinking about it, Price Waterhouse can help. Our financial and tax advisory services are provided by experienced professionals in Germany and the United States. We have the resources and expertise you need to meet today's challenges and plan for the future.

The depth of experience within Price Waterhouse and Treuarbeit results in a wide range of services and insights which can be an important resource to you. Our professionals work closely with German-owned businesses to help them meet their objectives. In addition to assisting with the implementation of the 4th and 7th EEC Company Law Directives by German-owned foreign subsidiaries, some of the areas where we can be helpful to you are:

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representative offices in Brazil, Hong Kong, Italy, Mexico, South Africa, Spain and the United Arab Emirates and its partnership in ABECOR, HYPO-BANK offers financial services around the globe. Through its affiliation with ABD Securities, New York, its customers have direct access to the U.S. securities markets, brokerage and investment management.

For more information and a copy of our annual report, please contact the Banking Department, Wall Street Plaza, New York, N.Y. 10005, Tel.: (212) 248-0650 or the International Department, A/MIA-ATF, Theatinerstrasse 11, D-8000 Munich 2, Tel.: (089) 2366-8323, Telex: 5 286 525-27.

Bayerische Landesbank

BAYERISCHE LANDESBANK's origin dates back to the late nineteenth century, and the Bank has grown into one of the leading banking institutions in West-Germany. Headquartered in Munich, Bayerische Landesbank operates branch offices in New York, London, Singapore and a subsidiary in Luxembourg, as well as Representative Offices in Vienna, Toronto and Johannesburg. In addition, a Grand Cayman Branch as well as an International Banking Facility (IBF)—operated out of New York—supply off-shore banking services.

Bayerische Landesbank, a public institution, is 50% owned by the State of Bavaria and 50% by the Bavarian Savings Bank Association. The Association is owned by the savings banks, which in turn are owned by their municipalities. By statute, Bayerische Landesbank's obligations are jointly and severally guaranteed by its owners.

Bayerische Landesbank's total assets now exceed DM 100 billion. The bank has been accorded the highest ratings from both major U.S. agencies (Moody's P-1, Aaa ; Standard & Poor's A-1+, AAA).

The Bank offers a wide range of financial services on a global basis. In Germany, it is one of the largest issuers of securities as well as a major corporate lender. Its primary strengths include a substantial DM deposit base and long-term, fixed rate DM loan capabilities.

Since establishing its Representative Office in New York in October 1979, and gaining full branch status two years later, in October 1981, Bayerische Landesbank has become a major wholesale lending participant throughout the country.

The New York Branch offers a full range of domestic and international financial services, including loans, foreign exchange and money market expertise, as well as documentary and collection capabilities.

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D-8000 Muenchen 2 West Germany
Phone: 21 71-01

BAYERISCHE VEREINSBANK
AKTIENGESELLSCHAFT

BAYERISCHE VEREINSBANK AKTIENGESELLSCHAFT, incorporated in Munich as a commercial bank in 1869 and merged with Bayerische Staatsbank (founded 1780), today ranks fourth among the largest private-sector banks in Germany. Together with its mortgage subsidiaries, Bayerische Vereinsbank is the largest private-sector, long-term banking group in Germany. As of June 30, 1985, the Bank's balance sheet total stood at DM 75 billion, consolidated total assets at over DM 127 billion. Our ratings are as follows: P 1 (Aaa for long term rating) with Moody's and A-1+ with Standard & Poor's.

As one of the few banks specializing in both the commercial and mortgage fields, BV offers particularly diversified services. Headquartered in Munich, BV's domestic presence is weighted towards Southern Germany, in particular Bavaria, but the bank is also present directly in all business centers of North Germany. Bayerische Vereinsbank also holds interests in several well-known private banks in West Germany. The Bank's wholly-owned subsidiary BAYERISCHE VEREINSBANK INTERNATIONAL S.A., Luxembourg, is active in the Euromarket with a business volume of some DM 6.2 billion and a considerably improved income status.

International business is conducted by about 50 domestic branches as well as out of 20 locations strategically placed around the world. Bayerische Vereinsbank also strengthened its market position in international financing and securities business, both at home and abroad.

North America was again a major focus of Bayerische Vereinsbank's international activities in 1983. The bank's network in North America is the largest of all German banks, with offices in New York, Chicago, Los Angeles, Atlanta and Cleveland, plus an IBF in Atlanta as well as a Eurobase in the Cayman Islands.

With over 400 branches and a staff of more than 11,000 employees, Bayerische Vereinsbank offers comprehensive domestic and international services tailored to the individual needs of its clients. The Bank is one of Germany's largest joint-stock credit institutions, and has about 67,000 shareholders. BV shares are traded on all German stock exchanges.

CARL G. BRIMMEKAMP & COMPANY, INC. (CGBCO), was established in 1962 in San Francisco to give European industrial manufacturing and engineering companies easy access to the North American market. CGBCO is now headquartered in the New York Metropolitan area in Stamford, Connecticut.

With branch offices in the Chicago, Houston and San Francisco areas, this dynamic firm helps its European clients to transfer their technology and capital goods across the Atlantic for maximum profit.

CGBCO's principals are primarily highly specialized privately owned manufacturers of capital goods and engineering firms. At the same time CGBCO also assists some of Europe's industrial giants.

CGBCO's staff of engineers and marketing people come from industries which they now service:

- pulp and paper
- chemicals and pharmaceuticals
- fibers and plastics
- energy and alternative fuels
- mining and cement
- ferrous and non-ferrous metals
- machine tools
- bulk solids and materials handling

Working within their specialties, these professionals arrange for their client firms to:

- import/export
- Americanize the imported capital goods to conform to U.S. standards
- partially manufacture in North America
- manufacture under license
- contract manufacture in North America
- acquire total or partial equity in North American companies
- establish a North American subsidiary with or without CGBCO equity participation.

Particular emphasis is placed on an efficient after-sales-service.

CGBCO also assists in facilitating financing, either through private or government sources. Furthermore, CGBCO is prepared

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to enter into joint venture agreements whereby it makes its office infrastructure and its qualified personnel available to its principals.

CARRÉ, ORBAN & PARTNERS

CARRÉ, ORBAN & PARTNERS INTERNATIONAL is a firm of management consultants with offices in Amsterdam, Brussels, Düsseldorf, Geneva, London, Milan, New York, Paris and Rome. A representative office is maintained in Zürich. The firm's clients are industrial, financial and service businesses as well as governmental and international organizations.

The prime objectives of Carré, Orban & Partners International are to bring professional, pragmatic and long lasting solutions to their clients' management problems and to assist clients in capitalizing on new business and technological opportunities.

The consulting practice includes senior level executive search, management appraisals of human resources and, to a lesser extent, the search for appropriate merger or acquisition corporate candidates. Each of these services requires the application of the firm's specialty of assessment and systematic search procedures.

Executive Search

This service assists clients in the selection of senior-level human resources. The firm works with clients to define the parameters of a given position in order to systematically search, evaluate, select, motivate and integrate the newly chosen executive into the client company. The firm also accepts assignments to identify and select outside board members.

Management Appraisals

This service guides clients in evaluating management structures and advises in times of strategy review during mergers, turnarounds or divestments. It includes analysis of management structure, evaluation of executive capabilities, and preparation of executive profiles.

Corporate Mergers and Acquisitions

The firm undertakes searches for acquisition or merger candidates, as well as searches for joint venture corporate partners. Such acquisition engagements assist clients in finding new businesses, new markets or new technological fields.

CHASE

CHASE MANHATTAN serves the financial needs of its corporate and institutional customers in over 130 countries around the world. At a time when the economies of the world are more interdependent than ever, Chase Manhattan is eager and able to pursue global opportunities.

Within Germany, Chase Manhattan has corporate bankers whose industry expertise include capital goods, electronics, automotive, mining and metals, energy, shipping and aerospace. Also, there are specialists in trade finance and international cash management.

Chase also serves, through its International Institutional Area, leading German banks. Chase facilitates the transfer of funds and letters of credit and participates in loan syndications. In addition, Chase AG acts as a local correspondent bank in the D-mark field for other foreign banks located in Germany.

Chase will continue to serve the needs of its corporate and institutional customers in

Germany and around the world by developing top quality new products and by maintaining a high calibre of service.

COMMERZBANK

Founded in 1870, COMMERZBANK soon became a leading force in German banking. Today, it ranks third among the "Big Three" German commercial banks, providing an extensive range of services for its more than 2½ million customers at home and abroad. Its consolidated total assets as of September 30, 1985 reached some DM130bn, with its capital and reserves amounting to more than DM3.7bn. As of that same date, the Commerzbank Group maintained a network of almost 900 branch offices at home and abroad, employing nearly 23,000 people.

Commerzbank is strongly engaged in all kinds of commercial, investment, and merchant banking, while also being active as a broker/dealer. Emphasis in commercial banking used to be on short and medium-term loans, but more recently long-term lending has increasingly become significant, too. Although the bank has always considered wholesale banking as one of its particular strong points, retail banking has also experienced rapid growth over the last two decades and now accounts for roughly half of the bank's business at home.

Commerzbank's domestic presence is reinforced by some 20 banking and financial associates, the most important of which are Rheinische Hypothekenbank, a leading German mortgage bank, and Berliner Commerzbank, the bank's West Berlin subsidiary.

Non-domestic activities today add up to approximately one-third of Commerzbank's total business, stretching from trade and corporate finance to syndication business and project finance, while also including foreign exchange and interest swaps, currency options and sophisticated cash management services.

The bank's international presence extends to about 70 foreign outlets and holdings in over 30 countries. Operative units, which concentrate on wholesale business, are maintained in all the major international financial centres, where thirteen branch offices and four wholly-owned subsidiaries are operated. In addition, the bank runs 16 representative offices and has numerous holdings in financial institutions.

Commerzbank has always maintained especially close relations with the U.S. In 1971, it transformed its New York representative office—which dated back to 1967—into an operative unit, thus becoming the first German bank to open a full-service branch in the country. It expanded its U.S. presence by establishing another branch office in Chicago in 1974 and an agency in Atlanta in 1979. Commerzbank's latest move in the U.S. was the opening in the autumn of 1985 of an office in Los Angeles.

Coopers & Lybrand

Growing your business in a new country is not a simple task. An adaptation process is required so that your new American venture can succeed in its new environment. COOPERS & LYBRAND understands that this "cultural transplant" needs a great deal of tending and has designed a special program for both German investors and German companies with U.S. operations.

Our network of 90 U.S. offices is staffed with partners experienced in both start-up and well established businesses. All our people are business people who approach work with

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News for German companies with U.S. operations

Coopers & Lybrand has a special program to help German businesses thrive in America

Running a business in a foreign country is a difficult task. The problems that can threaten success are numerous. Coopers & Lybrand, with international public accounting and management consulting firms in 98 countries, can help you avoid these problems.

Special attention is required to assure the success of your U.S. operations. Coopers & Lybrand has a special program designed to provide you with high quality, innovative services, whether you're an entrepreneur or a public company; whether you're starting up a new business or making an acquisition.

Our professionals, who travel to Germany regularly, meet with parent company management to coordinate our services, discuss plans or resolve problems. We provide service in the areas of:

- Accounting and auditing
- Taxation
- Management consulting
- Actuarial, benefits & compensation consulting

For further information, contact:

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one overriding goal: to help your company succeed. We have the financial and management experience to make your German business a success in America.

Our special program for German companies is led by James W. Zug, John T. Rudden and Gunther Strothe, who are fluent in German and travel to Germany regularly. They have already helped many large and small German companies establish new operations and make acquisitions in the U.S.

To help you become part of your new environment quickly, Coopers & Lybrand can provide you with introductions to banks, attorneys and members of the local business community.

Because of Coopers & Lybrand's expertise in different industry groups, we can also advise you on the economics and problems facing specific industries in the U.S. We will keep you abreast of changing rules and regulations from Washington and guide you through the complex maze of actuarial, benefits and compensation regulations.

Through its member firm, Treuhand-Vereinigung AG and its subsidiary, Karoli-Wirtschaftspruefung GmbH, Coopers & Lybrand maintains offices in Berlin, Cologne, Essen, Frankfurt, Hamburg, Karlsruhe, Munich, Pirmasens, Stuttgart and Kassel.

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DG BANK

DG BANK with headquarters in Frankfurt am Main, an international wholesale bank established by special legislation, provides comprehensive commercial and investment banking services and acts as central bank and liquidity manager for the cooperative banking system in the Federal Republic of Germany.

In 1984, DG Bank and its consolidated subsidiaries, the DG Bank Group, increased its loan portfolio by 3.8 percent to DM 64.7 billion (equivalent to US$ 20.6 billion), its total assets by 7.2 percent to DM 83.2 billion (US$ 26.4 billion), and its business volume—total assets and contingent items—by 7.1 percent to DM 89.3 billion (US$ 28.4 billion).

The Group again expanded both its interest-earning and its fee-related international business significantly. Intensive counselling given by the New York Branch to German investors having an interest in U.S. investments was reflected in a substantial increase in private customer business. The Los Angeles Agency participated in several syndicated loans for corporate clients based on the West Coast. Total international exposure increased by 15.7 percent to DM 16.2 billion (US$ 5.1 billion); net of money market operations, foreign loans covered by domestic security, and other foreign loans not subject to a transfer risk, "real" international exposure was DM 8.1 billion (US$ 2.6 billion) or 9.1 percent of the Group's business volume.

The Group's net income for the year, at DM 117.6 million (US$ 37.4 million), was 17.6 percent higher than for the preceding year. Of this amount, DM 50 million was allocated to reserves. Moreover, the Bank issued participating certificates for a total of DM 350 million, so that its equity rose to DM 1,811 million (US$ 575.3 million) at year-end. The Bank's shareholders received a tax-free dividend of 5 percent and a special dividend of 3.75 percent for 1984.

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The consolidated assets of the entire German cooperative banking system (more than 3,700 local banks owned by over 10 million shareholders, eight regional banks, the DG Bank Group and a number of specialized financial service organisations) in 1984 grew by 7.5 percent to DM 476.6 billion (US$ 151.4 billion).

DANZAS

DANZAS GmbH, one of the big forwarding organizations in Germany is a wholly owned subsidiary of DANZAS AG, Basle and was founded in 1919. Today we have 75 offices in the Federal Republic of Germany, including West Berlin.

Special divisions for air- and seafreight and for project shipping worldwide, specialized departments for food transports as well as for Trade Shows in Germany and abroad guarantee a high measure of competency and experience. As one of the largest forwarders, we offer a full range of transportation.

We know the competing carriers and we are able to match special demands and their special requirements. Being independent, we are not obligated to any carrier.

DANZAS GmbH cooperates with the whole DANZAS network internationally in Europe and overseas. We are represented in all 5 continents with more than 500 DANZAS offices and 10,000 employees.

In addition, our commercial delegations in the U.S.A. (among others in New York, Atlanta, Charlotte, Greenville-Spartanburg, Los Angeles, Miami and Richmond) hold a tight contact with our customers.

The Alltransport Inc., part of the DANZAS Group and headquartered in New York, has branches in Baltimore, Chicago, Houston, Los Angeles, New Orleans, and Norfolk. Another subsidiary is the Seaway Forwarding Corp. in Cleveland and Toledo.

The entire DANZAS organization guarantees professional handling for all door to door forwarding requirements across international boundaries.

To offer our client up-to-date handling in documentation and communication, we use the most advanced equipment to communicate around the world.

We will continue to serve our customers efficiently in the future and to help them save money in the field of transportation, because this is our market.

DART

DART CONTAINERLINE is one of the first-class weekly carriers which made an easy and early transition from a break-bulk liner past to fully containerized and intermodal operation now employing its third generation vessels. The four vessels ply between North European ports and ports on the North and South Atlantic East Coast of the U.S.,—with mini-bridge service for U.S. Gulf Ports.

With one of the fastest transit times to Bremerhaven, it has been of special interest to shippers of those higher valued commodities which demand the minimum of losses because of inventory-in-transit costs.

In Germany, Dart's affairs are handled by the HSG organization with offices in all leading cities. In the U.S.A., the General Agents are Seapac Services with over twenty-five convenient offices throughout the country.

As a member of the ANEC and NEAC conferences, it provides Port/Port as well as Point/Point single factor and zip code services.

Deutsche Bank

A century of universal banking

DEUTSCHE BANK AG, headquartered in Frankfurt/West Germany, is the largest bank in the Federal Republic of Germany with total assets as per December 31, 1984 of DM 232.3 billion, deposits of DM 213.0 billion and stockholders' equity of DM 7.7 billion. Together with its consolidated subsidiaries it is also one of the world's leading banking enterprises.

The Bank is engaged in a full range of commercial banking activities such as providing credit of all types and maturities and accepting deposits. In addition, the Bank is active in underwriting, distributing and trading securities and holds equity investments in some of the country's leading industrial corporations. The Bank's consolidated subsidiaries are engaged in mortgage lending, sales financing, investment management, property management, leasing and construction financing. Through Deutsche Bank Compagnie Financière Luxembourg, the Bank is one of the leading institutions involved in Euromarket lending and loan syndications.

Its network of domestic and international offices and affiliates has been consistently expanded and its cooperation with more than 4,000 correspondent banks throughout the world has been steadily intensified.

The New York branch of Deutsche Bank was established in 1978. The branch is involved in commercial wholesales banking with an emphasis on short and medium term lending, trade finance, international documentary business, foreign exchange and money market dealings. Offshore activities are channeled through the International Banking Facility (IBF) and Cayman Islands Branch. Representative Offices are maintained in Chicago and Los Angeles.

In 1982 the Bank established the wholly-owned subsidiary Deutsche Credit Corporation (Deerfield/Illinois) which emphasizes asset based financing and capital equipment leasing. Deutsche Bank is also engaged in U.S. investment banking through its wholly-owned subsidiary Deutsche Bank Capital Corporation (see separate profile). Additional activities in North America are carried out by a wholly-owned subsidiary and a representative office in Toronto, Canada.

By late 1984 Deutsche Bank had 14 branches, 19 representative offices and 8 wholly-owned affiliates abroad. Group staff numbering nearly 47,900 at 1411 branches work for 6.43 million customers all over the world: individuals, large and small corporate customers, banks, public authorities, states and supranational institutions.

Deutsche Bank Capital Corporation

DEUTSCHE BANK CAPITAL CORPORATION, originally established in 1970, is a U.S. investment banking firm, wholly owned by Deutsche Bank AG. Deutsche Bank Capital employs about 100 professionals and staff employees.

The corporate finance activities of Deutsche Bank Capital include: the management of debt and equity public security offerings in the U.S. and international markets; the private placement of debt securities with U.S. and non-U.S. institutional investors; advising European companies in making acquisitions of U.S. companies; specialized corporate financings, such as tax-exempt Industrial Revenue Bonds and Pollution Control Bonds to finance plant and equipment in the U.S.; lease, leveraged lease, and currency hedge financing and financial advisory services, especially in connection with corporate acquisitions in the United States.

In the last five years Deutsche Bank Capital has managed or co-managed well over 350 different transactions including U.S. private placements, public offerings, Industrial Revenue Bond offerings, Pollution Control financings, lease financing and Euro-bond financings. In addition, the firm served as a financial advisor to numerous European companies which made acquisitions of U.S. public and privately owned corporations.

The firm's Swap experts in New York join with their Deutsche Bank counter-parts in Frankfurt, London and Tokyo to identify and structure swap transactions best suited to each client. Funding opportunities as well as investment alternatives multiply through the use of interest rate and currency swaps.

The underwriting activities of Deutsche Bank Capital consist of participations in most domestic and international syndicates, formed for the distribution of securities. In the past two years, Deutsche Bank Capital participated in over 500 domestic and foreign underwritings with commitments in excess of 1 billion dollars. These commitments were placed with financial institutions around the world.

The Stock Trading Department makes a market, trades as principal, and has an important agency order execution capability in American securities. Since December 1982, Deutsche Bank Capital has been a member of the New York Stock Exchange, where the firm executes the majority of its orders. The firm is also a member of most regional stock exchanges.

The Bond Trading Department makes active markets in U.S. domestic debt securities with special emphasis on "Yankee Bonds" and "Eurobonds," dealing with a broad range of institutional investors, who are served by a special bond sales group.

The firm's Money Management Services cater to private and institutional clients, including U.S. Pension Funds, desiring to have the U.S. Dollar portion of their assets managed and supervised on a discretionary basis.

The International Department markets non-U.S. dollar instruments, especially those denominated in Deutsche Marks, to institutional clients who seek international portfolio diversification.

Deutsche Bank Capital Corporation's wholly-owned subsidiary, Atlantic Capital Corporation, is engaged in leveraged buy-outs and venture capital transactions.

DEUTZ®

DEUTZ CORPORATION is an American subsidiary of Kloeckner-Humboldt-Deutz AG(KHD) of Cologne, West Germany. Headquartered in Atlanta, Georgia, Deutz markets air-cooled diesel engines from 3.5 to over 500 hp for construction, industrial, forestry, military, mining, oil field, rail maintenance, concrete pumping, welding, agricultural equipment and for powering medium trucks.

The parent company, Kloeckner-Humboldt-Deutz AG, is one of the oldest and largest engine manufacturers in the world. It manufactures both air- and liquid-cooled diesel engines, turbines and jet engines. KHD also manufactures tractors and agricultural equipment and designs and manufactures machinery, as well as complete industrial plants for processing raw materials.

Top model lines for Deutz include the FL912-913 AirDiesel and the FL511. These two families provide power outputs from 20 to 160 hp. The FL912/913 AirDiesel has been a consistent best seller for Deutz, with pre-

Why Nearly 200,000 Deutz AirDiesels Are At Work In North America.

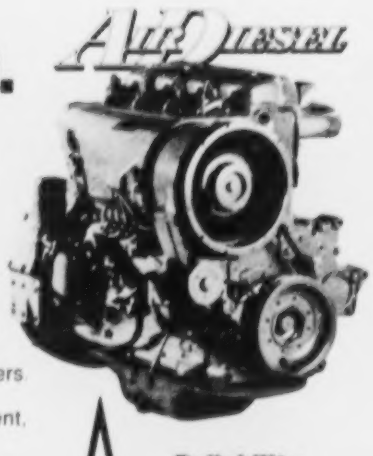
20% better fuel economy.
Deutz AirDiesels are more fuel-efficient by design. A simple, efficient air blower does the work of the entire liquid-cooling system and leaves your engine more power to do its job. Deutz advanced combustion technology, direct fuel injection, and fast warm-up allow AirDiesels to do more work with less fuel.

40% less downtime.
No liquid-cooling systems means no water pump failure. No leaky radiator. No liquid in the engine oil. None of the problems that together account for about 40% of all downtime with liquid-cooled engines.

The unit cylinder design of Deutz AirDiesels makes them easier to service; each cylinder can be removed and repaired individually. And 80% parts interchangeability within engine series means less parts to inventory.

In all types of applications.
We've got a complete selection of engines, from 8 to 500 hp. You'll find them working in all kinds of applications throughout North America. Powering welders. Compressors. Trenchers. Loaders. Pumps. Gensets. And more. Whatever the application, whatever the environment, Deutz AirDiesels are premium quality engines that deliver low life cycle cost.

Call us today for more information. And put our numbers to work on your bottom-line.



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cursor models in production since 1952. The FL511 line features a compact design that combines light weight with high output.

Deutz engines have been marketed in the United States since 1876, with Deutz marketing directly since 1951.

Today, the Deutz parts and service network includes over eighty distributor locations and more than 450 dealers across the continent. With sales and central parts facilities in Atlanta, Deutz is well situated to serve the needs of the North American market.

DRESDNER BANK AG was established in Dresden in 1872 and is now headquartered in Frankfurt, West Germany. With a worldwide consolidated business volume of the Dresdner Bank Group of approximately DM 190 billion, the company ranks among the largest banks in the world.

As a "universal bank," the Dresdner Bank offers the full range of banking services. Internationally, the bank specializes in investment advice and in the management of mutual funds and of pension funds. It also holds a leading position in placing bond issues floated by foreign issuers, and in introducing the shares of foreign corporations to German stock exchanges. The bank also plays a significant role in the foreign exchange and money businesses as well as in gold coin and in bullion trading.

As Dresdner Bank has been internationally orientated from the very beginning its foreign business makes up about a third of total business volume. Decades of experience, a network of branches and representative offices abroad, and co-operation with over 5,000 correspondent banks all over the world enable the bank to back the industry in their international business. As syndicate manager Dresdner Bank has organized the financing of numerous large-scale projects in several countries. Of significance is furthermore the Bank's leadership in financing the sales of the European Airbus A 300 and A 310.

Dresdner Bank was the first German bank to establish, in 1967, a subsidiary in Luxembourg, Dresdner Bank International, which successfully engages mainly in international finance, securities, money market, foreign exchange and precious metals business.

In recent years the Bank has strongly intensified its involvement in the United States and maintains fully operating Branches in New York, Chicago and Los Angeles and Representative Offices in Houston, Texas, and Miami, Florida. With its 75% participation in ABD Securities Corporation, New York, Dresdner Bank has also gained a good position in the American brokerage and investment business for U.S. as well as German customers.

Dresdner Bank meets the needs of its customers in dealing with the increasingly more specialized problems arising in international business by offering an individualized advisory service backed up by vast connections including offices in more than 50 countries on all continents.

We are happy to serve our customers at home and abroad.

EM INDUSTRIES, INC.

EM INDUSTRIES' business will reach a volume of $80 Mil. in 1985 and is channeled through four operating divisions:

The PIGMENT DIVISION supplies pearlescent pigments for cosmetic and industrial applications. These pigments are produced in a new facility in Savannah, GA, which was

EM INDUSTRIES, INC.

THE US ASSOCIATE OF E. MERCK, DARMSTADT / GERMANY

PIGMENT DIVISION

5 Skyline Drive
Hawthorne, NY 10532
Tel. (914) 592-4660
Telex 178 993

ADVANCED CHEMICALS DIVISION

5 Skyline Drive
Hawthorne, NY 10532
Tel. (914) 592-4660
Telex 178 993

EM SCIENCE

111 Woodcrest Road
P.O. Box 5018
Cherry Hill, NJ 08034-0395
Tel. (609) 354-9200
Telex 902 556

FINE CHEMICALS DIVISION

5 Skyline Drive
Hawthorne, NY 10532
Tel. (914) 592-4660
Telex 178 993

EM INDUSTRIES INC., 5 SKYLINE DRIVE, HAWTHORNE, NY 10532

constructed in 1979 as the first phase of a new chemical complex.

Among the industrial applications, the major target group is the automotive industry, where new exterior colors have been created with the pigments produced by EM Industries. Other markets are the plastics, wallpaper and textile industries.

As to the cosmetical use, the RONA PEARL business group is handling this product line. The pearlescent pigments add an iridescent glow to powders, eye shadows, blushers, lipsticks, liquid makeups, nail enamels, cream, shampoos and soaps.

The ADVANCED CHEMICALS DIVISION supplies sophisticated specialty chemicals to a variety of high technology industries. Interesting products include photoresists for the semiconductor industry, liquid crystals for display manufacturers and monocrystals for optical applications. Recently EM Industries acquired the OPTOVAC group of North Brookfield, Mass., which is a domestic manufacturer of optical crystals.

The EM SCIENCE Division was initially based on the acquisition of MCB Manufacturing Chemists of Cincinnati, Ohio. MCB is one of the oldest, most respected names in the field of laboratory chemicals. MCB had been able to extend its product offerings with the addition of fine laboratory products from E. Merck, Darmstadt, the largest worldwide supplier of high purity chemicals. MCB manufactures and sells close to 4,000 products for analytical and research purposes in industrial educational and government laboratories.

From 1980 to 1984 EM Science was also, through its Harleco group, involved in the clinical chemistry market. These activities were discontinued and transferred into a new diagnostic company which E. Merck, Darmstadt, formed in the United States with participation of an American group of experts in this field. EM DIAGNOSTIC SYSTEMS, Inc. has since become an independent entity and has started introducing a new clinical analyzer of Eppendorf, a German manufacturer of clinical chemistry instruments and shortly hopes to broaden its approach to the clinical chemical marketplace, which includes hospitals and private clinical laboratories as well as government health services.

The FINE CHEMICALS DIVISION in turn supplies a range of high purity chemicals to the pharmaceutical and food industry, which includes traditional vitamin compounds like Vitamin C, where E. Merck, Darmstadt, is one of the world's largest manufacturers.

In addition to these commercial activities, EM Industries conducts clinical research for the Pharmaceutical Department of E. Merck, Darmstadt, and is testing new plant protection products developed by Celamerck of Ingelheim, Germany.

EIMELDINGEN

EIMELDINGEN Corporation, a wholly-owned subsidiary of Maschinenfabrik Eimeldingen in Eimeldingen, West Germany, was founded in 1979 in Indianapolis, Indiana. Eimeldingen is one of the world's largest manufacturers of ultra-precise rotary machine tool tables. . .dividing, graduating and coordinate tables. . . required for extremely accurate machining, measurement and inspection.

Eimeldingen's international reputation for extreme precision is acknowledged and utilized by industries manufacturing aerospace equipment, aircraft, helicopters, automobiles, generators and turbines.

This prestigious international company was founded in 1932 in Stuttgart as a designer and manufacturer of automatic transfer machines. In 1945, a new production facility built in

Where do you go for extraordinary German precision? Indianapolis!

When it comes to machine tool tables, the world turns to Eimeldingen. For accuracy. For versatility. For service on a wide range of requirements in dividing, graduating and coordinate tables...both standard and custom. We have nine standard horizontal, vertical or fully inclining models...ranging from 12" to 160"...with payloads up to 80 tons and over. Very simply, we can solve your problems...with a long list of production options. Just tell us your requirements.

EIMELDINGEN

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Eimeldingen, West Germany, started manufacturing vises; various tilting and rotary movement workholding pieces—necessary for a retooling industrial nation—resulted from these original vises.

In the 50's when industry required precision measuring and inspection tables, Eimeldingen designed and manufactured rotary and rotary tilting tables to meet these requirements. In the early 1970's, Eimeldingen's rotary machine tool table was interfaced with other industrial operations, including numerical control capabilities. This served to open the OEM market for Eimeldingen precision rotary tables, which were being widely used for production purposes; since 1975, nearly 80% of all Eimeldingen products have been used in a production function, with sales to all Western countries.

Eimeldingen Ltd. was opened in 1977 as a sales and service facility to accommodate Great Britain and the British Isles. Eimeldingen/Indianapolis was established in 1979 to provide the international firm with yet another manufacturing facility. Eimeldingen provides exceptionally qualified design and electronics personnel to build custom rotary machine tool table orders to the most exacting specifications. In 1983, Eimeldingen introduced Flexible Manufacturing System (FMS) and FMS components for parts machining, loading and handling applications. Eimeldingen FMS components and systems provide an automated, continuous flow of parts to and from various production operations, such as machining centers and vertical turret lathes.

SIP machining centers—recognized worldwide as the leader in precision machining centers—in combination with technically qualified personnel make it possible for Eimeldingen/Indianapolis to provide the United States market with the same precision industrial manufacturing equipment as that built in Europe.

FAG

FAG BEARINGS CORPORATION is an international organization whose trademark is a worldwide symbol of quality and dependability in the design and manufacture of bearings in all sizes and configurations. FAG is recognized as the signature of one of the world's oldest and largest manufacturers of precision ball and roller bearings. Since 1883 FAG has led the way in the development and refinement of bearing design and technology. Today, FAG employs over 31,000 people in branches and affiliate plants in the U.S.A., Canada, Brazil, Germany, Austria, Switzerland and Portugal. There are, in addition, FAG sales and service offices and distributors in more than 100 countries.

FAG headquarters in the U.S.A. are located in Stamford, Connecticut, where a full complement of administrative, marketing, engineering and distribution personnel service the American market. The chief U.S. production facility is in Joplin, Missouri. After undergoing extensive expansion, the Joplin plant has been producing an extended range of bearing types in sizes hitherto never produced in the U.S. FAG's capabilities in bearing design and manufacturing are second to none. From automobiles to steel furnaces, farm machinery to spacecraft, FAG is ready to provide bearings, housings, accessories and components, whatever and wherever the need.

Feralloy
CORPORATION

FERALLOY is a pioneer in the steel processing industry. Over thirty years ago, Feralloy began operations in Chicago with one coil-slitting line and a large commitment to customer service. Today, Feralloy serves the steel processing needs of the entire United States through six nationally located processing facilities.

From these six locations, Feralloy operates sheet steel processing equipment that includes thirteen coil-slitting lines and five cut-to-length sheeting lines.

Feralloy's six processing facilities can be found in the following locations:
- Chicago, Illinois
- New Castle, Delaware
- Birmingham, Alabama
- Granite City, Illinois
- Cleveland, Ohio

and Feralloy's new company is:
- Feralloy West Company,
  Pittsburg, California

The Feralloy of today is one of the largest, most experienced steel processing companies in the country. All of Feralloy's processing facilities are designed for high-volume, fast turn-around, quality coil and sheet production. Utilizing precision engineered machinery to yield processed sheet and coil steel, Feralloy produces a product that is consistent with the highest statistical quality control standards.

Feralloy's innovative warehousing program inventories a variety of master coils according to customer specifications and schedule requirements. Controlling this inventory is a uniquely designed Data Processing System that selects coils from Feralloy's large warehouse inventory. After this selection process the master coils are then cut to size, inspected to assure quality control and then shipped either J.I.T.'s (just-in-time) or by using tight scheduling to meet changing business conditions.

Feralloy is now processing over 500,000 tons of sheet steel a year and has a capacity to store and process twice that amount.

Over the past thirty years, Feralloy has established the credibility necessary for a supplier to become an integral part of the customers production operations.

Feralloy has a commitment to customer service and dedication to respond to customer needs. Supported by the financial strength needed to carry inventory and provide modern facilities, Feralloy has earned an excellent reputation based upon integrity.

First Boston

THE FIRST BOSTON CORPORATION, headquartered in New York City, is a full-service international investment bank. As financial intermediary, we are in constant contact with both the suppliers and users of capital worldwide; moreover, we strive to be consistently creative in our approach to meeting their financial and strategic objectives. Our market making and trading activities cover the complete range of securities of corporations, financial institutions, and governments and their agencies, 24 hours a day. We seek to offer not only innovative ideas for raising capital and solving complex financial problems, but also to provide unparalleled resources for executing transactions.

First Boston established a unique affiliation in 1978 with Credit Suisse First Boston (CSFB), a leading London-based merchant bank. Together, First Boston and CSFB offer comprehensive international investment banking and securities trading services. First Boston and CSFB are consistent leaders in raising capital worldwide, as well as a dominant trading force in the world capital markets. Through our alignment with the newly formed CSFB-Effectenbank in Frankfurt, we are the only U.S. investment bank to also offer unlimited flexibility in meeting the particular needs of German and non-German companies in the DM-denominated securities market.

First Boston also offers expertise through specialized corporate finance advisory services. First Boston's "German Desk"—established in 1981—tailors these capabilities for our expanding German client base. For example, First Boston is preeminent in merger, acquisition, takeover defense and divestiture activities. Over the past seven years, we have assisted domestic and international clients in transactions exceeding $100 billion in value, including both large and small assignments and discreet advisory projects. First Boston's Project Finance Group—the first of its kind on Wall Street—has worked on more than 300 domestic and foreign project assignments, and raised more than $16 billion for projects in all relevant world capital markets.

In total, we leverage our expertise and presence to the benefit of each client by capitalizing on opportunities whenever and wherever they occur.

FIRST UNION

FIRST UNION NATIONAL BANK is a $7.9 billion bank (as of 6/30/85), headquartered in Charlotte, North Carolina. We are a major force in the Southeast region of the United States, finishing the fourth quarter of 1984 as the 39th largest bank in the country in terms of total assets, and 57th in terms of deposits. As further evidence of our market coverage in North Carolina and the Southeast, First Union has recently arranged a merger with the fourth largest bank in North Carolina, Northwestern Bank, and has agreed to acquire Jacksonville, Florida-based Atlantic BanCorporation, a bank holding company with assets of approximately $3.8 billion, and The Bank of Pasco County in Dade City, Florida, with assets of $180 million.

For a number of years, First Union National Bank's International Division has had a foreign reverse investment and trade flow orientation. Through our Charlotte staff and our representatives in London, Dusseldorf, and Tokyo, First Union's International Division serves the trade financing needs of a growing number of importing and exporting customers. International companies wishing to expand into North Carolina and other Southern states have found us to be responsive to their needs, not only for traditional and special financing services, but also for advice and counsel related to investments. During 1983, we upgraded our Dusseldorf representative office by increasing its staff in recognition of the importance of German-speaking Europe to the Southeastern United States.

We continue to emphasize quality operational services to our international customers. In 1983, we gave a high priority to automated enhancements as well as new product development. Our goal is to expand our operating capabilities and to be a leader in advanced customer-oriented international operations.

FLORIDA
AMERICA'S #1 BUSINESS CLIMATE

Die kaufkraeftigen Maerkte Westeuropas, Kanadas, Asiens und Lateinamerikas entdecken in zunehmendem Masse die Vorteile des Staates Florida fuer Handel und Industrie, was dazu

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fuehrt, dass der internationale Handel und Investitionen bestens gedeihen.

Floridas strategisch guenstige Lage auf halbem Wege zwischen den Staaten des amerikanischen Kontinents, die natuerlich vorhandenen und noch zusaetzlich geschaffenen Vorteile des Staates fuer den Handel und die Tatsache, dass Florida als suedlichster Bundesstaat als Standort fuer auslaendische Investitionen ganz einfach attraktiv ist – alle diese Kriterien geben Florida einen der ersten Plaetze am internationalen Markt.

Natuerlich werden die Geschaeftsinteressen auch durch das gut ausgebaute Netz an Seehaefen, durch die direkten Luft and Transporteinrichtungen, die internationalen Banken und die Aussenhandelszonen angelockt, sowie auch durch die multinationalen Bueros, Dienstleistungen, eine guenstige Steuerstruktur und eine Vielzahl von Arbeitskraeften mit guten Sprachkenntnissen.

Der Staat heisst Handel und Industrie aufs Herzlichste willkommen und hat sich stets bemueht, jedes Land wissen zu lassen, dass Florida am Geschaeft interessiert ist. Floridas Handelsministerium unterhaelt nun Bueros fuer Wirtschaftsentwicklung in Frankfurt und London sowie ein Buero fuer Lateinamerika in Sued-Florida, und hat ein Abkommen mit einer Wirtschaftsberatungsfirma in Tokyo, um den Kontakt mit moeglichen Handelspartnern und Investoren zu erleichtern. Das Buero fuer Lateinamerika befindet sich deshalb in Florida, weil der Staat die Erfahrung gemacht hat—wie ueber 100 multinationale Unternehmen auch—dass diese Maerkte von dort aus besser angegangen werden koennen.

Von Zeit zu Zeit veranstaltet Florida auch Besprechungen zwischen Vertretern des Staates und des Handelsministeriums einerseits und auslaendischen Firmen andererseits, um deren spezifische Beduerfnisse zu eroertern.

Den auslaendischen und amerikanischen Unternehmen stehen eine Reihe von Dienstleistungen zur Verfuegung, wie z.B. Studien ueber Marktbedingungen, Computer – und technische Hilfeleistung, kostenlose Plazierung von "Match up" Annoncen in einer internationalen Publikation, Forschungsarbeit fuer interessierte Firmen, Veranstaltung von Handelsmessen und Hilfe bei der Auffindung des richtigen Standorts.

Florida verfuegt ueber ausgezeichnete Luft- und Wassertransporteinrichtungen, darunter 14 Seehaefen und 13 Flachwasserhaefen. Unter den Vorteilen, die die sechs internationalen Flughaefen des Staates bieten, sind Non-Stop-Fluege nach Europa, Suedamerika und den wichtigsten U.S.-Staedten. Gut ausgebaute Strassen runden das Transportnetz ab.

1982 verzeichnete Florida 17 Milliarden Dollar im internationalen Handel. Der Staat besitzt sechs Aussenhandelszonen. Ab September 1982 gibt es 44 "Edge Act" Bankgesellschaften. Es sind auch 45 auslaendische Banken taetig, fuenf weitere genehmigt, aber noch nicht eroeffnet; sechs Bewerbungen werden noch in Betracht gezogen.

Eine angemessene und gerechte Steuerstruktur macht den Aufbau von Unternehmen sehr attraktiv. Bei jaehrlich 39 Millionen Besuchern, die 1982 mehr als 21.5 Milliarden Dollar ausgaben, kann Florida es sich leisten, die Unternehmenssteuern niedrig zu halten. Florida ist einer der sechs Bundesstaaten in den USA, in denen es keine staatliche Einkommenssteuer gibt – in dieser Beziehung der einzige Staat im Suedosten der USA. Auf Lebensmittel, Arznei oder Haushaltsgueter wird keine Umsatzsteuer erhoben. Ebensowenig wie auf Maschinen oder Ausruestungen fuer neue Produktionszentren. Bei Benzin, Oel, Holz oder Kohle, die fuer Industrieproduktion benoetigt werden, besteht ebenfalls keine Umsatzsteurer.

Floridas vielfaeltige Vorteile, einschliesslich des echten Interesses des Staates an der wirtschaftlichen Entwicklung, bieten dem internationalen Handel und Investitionen ganz erhebliche Moeglichkeiten.

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FOERSTER INSTRUMENTS INCORPORATED

In 1978 the INSTITUT DR. FORSTER, FRG, known worldwide as one of the major developers and producers of the instrumentation and complete systems for nondestructive testing, established a US division, FOERSTER INSTRUMENTS, INC., in Pittsburgh, Pennsylvania.

Looking after the requirements and needs in the US market, field sales offices were opened in Chicago, IL, Hartford, CT, Los Angeles, CA, and a service facility in Birmingham, AL, in addition to the main office in Pittsburgh.

Today, FOERSTER INSTRUMENTS INC. employs 27 people in the areas of production, sales and service offering maintenance and technical support for the entire FOERSTER product line. Annual sales are $1.8 mil.

Activities at Foerster Instruments Inc. are aimed at the metal producing and processing industries, especially pipe, bar and wire producers, as well as the automobile producers, the aircraft industry, aircraft service companies and several branches of the military services.

Current Capabilities:

- Consultation with NDT (Non-destructive Testing) customers to provide complete-system solutions.
- Supply of eddy-current crack detection equipment (e.g. to USAF Air Logistics Command, U.S. Naval Air Repair Facilities and U.S. Naval Air Engineering Center for aircraft service and maintenance.
- Supply of ferrous-metal detection equipment (e.g. to U.S. Naval Ordnance Station, Indian Head, MD. and Eglin AF Base, FL. for unexploded ordnance detection).
- Supply of spare parts for all products, available from comprehensive inventory in U.S.A. ($1.5 Million).
- Production of standard eddy current equipment and sensor probes.
- In-house software and hardware development.
- Integration of eddy current and leakage flux instruments with related technologies and processing equipment.
- Modifications of standard equipment for adaptation to specific customer applications.
- Repair and service of all parent company and locally manufactured equipment.

Current Expansion Activities for Military Applications:

- Expansion of plant capabilities to comply with military standards and specifications.
- In process of obtaining facility security clearance in order to participate in military procurements requiring access to classified documents of material.
- Research and development to improve mine detection technology.
- Continued assessment of opportunities to supply metal detection and magnetic field measurement equipment to DOD.

Frankfurt

West Germany, with a population of nearly 62 million people and the fourth largest GNP in the world, is one of the leading economies in Western Europe.

At the heart of West Germany's dynamic economy is FRANKFURT AM MAIN, the nation's financial, commercial and distribu-

Ready to Solve Your NDT Problems: FOERSTER

Service is often a deciding factor in the economics of quality assurance. Only a complete service capability can fulfill the cost effective performance of your Quality Program. FOERSTER has it. FOERSTER guarantees you as your Testing Partner consultation, production and service – all from one source, made in U.S.A.

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FOERSTER INSTRUMENTS INCORPORATED
subsidiary of
INSTITUT DR. FORSTER, W-Germany

tion center. There are 360 credit institutions in Frankfurt, and more foreign banks than in any other Continental European city—over 200, including 35 American banks.

Frankfurt is also the home of the Bundesbank, West Germany's central bank, as well as of the nation's biggest stock exchange.

It is a city with a highly sophisticated infrastructure providing all the facilities necessary for innovative decision-making: adequate space; comprehensive legal, tax and financial services; the full range of communications capabilities; a highly skilled workforce; vast market potential; the most modern transportation facilities; a business atmosphere that rewards resourcefulness.

Electronics, chemicals, and engineering are the main manufacturing industries. A healthy mixture of manufacturing and service industries combine with the main service sectors of trade, transportation, communications, banking, finance and insurance to comprise Frankfurt's highly diversified economy.

Frankfurt is the economic and distribution center of the Rhine-Main Region, which has a population of nearly 2.5 million and a workforce of 1.2 million. It is the second largest urban concentration in West Germany and one of the fastest growing areas of Western Europe.

Finally, Frankfurt is clearly the transportation hub of West Germany. Its central location puts it in the mainstream of the country's efficient air, rail, road, and waterway networks which, in turn, provide direct, fast access to all key domestic, West European and overseas markets.

FREIGHTLINER®

FREIGHTLINER CORPORATION

FREIGHTLINER CORPORATION produces and markets heavy-duty (Class 8) Freightliner trucks and medium-duty (Class 6/7) Mercedes-Benz trucks for North America. Headquartered in Portland, Oregon, Freightliner Corporation is a wholly-owned subsidiary of Daimler-Benz AG of West Germany, the world's largest commercial vehicle manufacturer.

The company's products are sold and serviced through a network of over 300 Freightliner and Mercedes-Benz truck dealers in the U.S. and Canada. Dealers are backed up by six regional sales and service offices and six parts distribution centers strategically located to serve customers anywhere in North America.

Together with its subsidiary, Mercedes-Benz Truck Company, Freightliner Corporation has production facilities in Portland, Oregon; Mt. Holly and Gastonia, North Carolina; Hampton, Virginia; and Burnaby, British Columbia. In addition, the company has a technical engineering and design center in Charlotte, North Carolina.

Freightliner Corporation introduced two new vehicles in 1985—a heavy-duty Freightliner Medium-Length Conventional and a medium-duty Mercedes-Benz Cab-Over-Engine tractor, thus significantly broadening its product line for the North American market. The company will also establish a presence in the Mexican market under a cosignatory agreement with Freightliner's parent company Daimler-Benz AG and FAMSA (Fabrica de Autotransportes Mexicana S.A.) authorizing FAMSA, a Mexican transportation equipment manufacturer, to produce heavy-duty trucks in Mexico under license from Freightliner Corporation.

Freightliner's origin dates back to the late 1930s when Leland James saw the need for a specially designed truck to meet the demands of long-distance hauling. James had formed Consolidated Freightways in 1929 and needed a lighter, stronger and more economical truck to pull bigger loads. Although he began crafting the first Freightliner aluminum body panels in 1939, it wasn't until after World War II that James joined forces with four other truck builders to pioneer the design and manufacture of the first cab-over-engine tractor. Freightliner became the industry leader in truck innovation and design, creating the all-aluminum cab, the aluminum integral sleeper and the first 90-degree tilt cab. In addition, the company spurred the application of the diesel engine for over-the-road use. Freightliner built its first conventional tractor in 1974.

In 1981, Daimler-Benz AG bought Freightliner Corporation from Consolidated Freightways, and a year later merged its Mercedes-Benz Truck Company with Freightliner, placing Daimler-Benz' North American commercial vehicle manufacturing and marketing operations under one corporate umbrella. With the 1985 debut of the company's first heavy-duty, medium-length conventional Freightliner tractor and its new Class 7 Mercedes-Benz cab-over-engine tractor, Freightliner Corporation has significantly increased its participation in the North American medium- and heavy-duty market.

Today, Freightliner is the fourth largest producer of heavy-duty trucks in America.

Frenkel&Co.Inc.

FRENKEL & CO., INC. has been a leader in the field of Commercial Insurance and Risk Management for over one hundred years.

We have enjoyed a healthy growth based on a philosophy of being large enough to provide an in-depth approach to corporate insurance problems and small enough to do this on a personal basis. Our many long-term relationships are testimony to the bonds of trust that have been formed through years of dependable service.

Our Risk Management professionals analyze and evaluate exposures to loss and design comprehensive insurance packages specifically tailored to our individual client's needs. We provide safety and fire prevention consulting services. We work closely with our clients to reduce potential loss to property and to personnel. Our Claims Division facilitates prompt and satisfactory settlement of claims. Rounding out the full range of brokerage services are experts in Employee Benefits and Estate Planning.

Through a network of domestic and foreign insurance underwriters, we arrange protection at competitive costs for exposures covering all facets of property, casualty, marine insurance and surety.

Insurance requirements of American subsidiaries of German companies require specialized, in-depth knowledge of German business practices, needs, and relationships as well as an understanding of the insurance marketplace in Germany.

We are particularly proud of our association with our many German-American clients. We can work directly with U.S. subsidiaries of a German parent and equally well in conjunction with a captive broker, risk manager or an independent correspondent broker located in Germany.

You can contact us by calling or writing Mr. Martin L. Elkinson, Senior Vice President, Frenkel & Co., Inc., 123 William Street, New York, New York 10038, telephone 1-800-221-4296.

GARRETT

THE GARRETT CORPORATION, with some 20 major divisions, subsidiaries and associated elements worldwide, designs and manufactures systems, products and components for the aerospace, energy management and surface transportation fields.

Founded in 1936 by the late J.C. "Cliff" Garrett as a small supplier of aviation accessories, Garrett has evolved into a well-balanced industrial complex of more than 22,000 employees in plants and offices in nearly every country in the western world.

The Garrett Corporation is one of The Signal Companies, a multi-industry company with strong, strategic positions in the aerospace, electronic communications, energy service, transportation and construction industries.

Garrett equipment is used on commercial, military and business aircraft, in automotive applications and in industry. Most of its products involve the use of very high-speed rotating machinery, heat-transfer technology and electronic, hydraulic and pneumatic control technology.

As a leading supplier of propulsion engines for general and commuter aviation, Garrett produces two turbofan engines, the TFE731 and the ATF 3-6, along with the TPE331 turboprop engine. It is also manufacturing the F109-GA-100 turbofan engine for the U.S. Air Force T46A Next Generation Trainer (NGT).

Another major Garrett product line is that of environmental control and also cabin pressure control systems for aircraft. Environmental control systems, in which Garrett pioneered, are being and have been produced for more than 75 different types of U.S. and foreign military aircraft, and 35 different domestic and foreign civil airplanes.

Garrett also produces for aircraft use a variety of computers, area navigation and energy management systems, auxiliary power units, inflatable survival equipment and emergency locator beacons.

The company manufactures turbochargers for industrial, automotive and aircraft use; gas turbine engines of numerous sizes; pneumatic controls and systems; hydraulic motors and pumps; castings for turbomachinery, aircraft systems and related high technology components; industrial regenerators and recuperators; and thick and thin film hybrid microcircuits.

GOLDMAN, SACHS & CO., one of the world's leading investment banking and brokerage firms, was founded in 1869 as a dealer in commercial paper. Over the succeeding decades, Goldman Sachs has entered into many investing and financing service areas on a broad scale. Today it is among the leaders in nearly every major activity in which it engages.

Continuing in the tradition of its founders, Goldman Sachs, through its subsidiaries, retains its long-standing position as one of the world's leading commercial paper dealers. We are the leading dealer in international commercial paper, with 57 international issuers including Bayerische Hypotheken-und Wechsel-Bank AG, Robert Bosch Corporation, Nixdorf Computer Corporation and Thyssen Holding Corporation. In addition, we were the first to offer foreign currency commercial paper—providing proceeds in such currencies as Sterling, Deutschemarks, Swiss Francs and Japanese Yen.

In the U.S. domestic markets, Goldman Sachs offers a number of investment banking services to international clients. These include medium- and long-term public offerings and private placements, tax-exempt financings, real estate financing and sales, lease and project financings, and merger and acquisition advisory. Our leadership position in the U.S. securities markets is based upon our strengths in investment banking, distribution capability and secondary market-making

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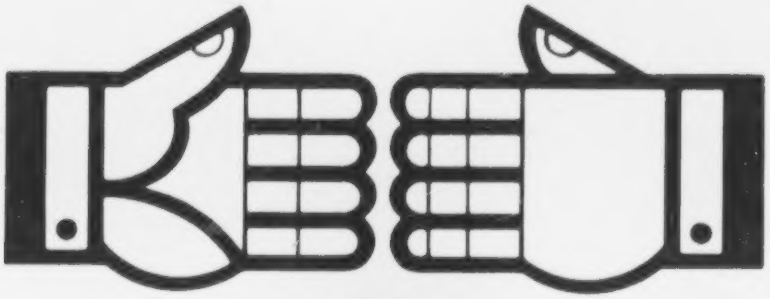
Because we know German-American business like the back of our hand.



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activities. Since 1980 we have been the lead manager of public financings in the U.S. domestic markets for Barclays Bank PLC and Barclays North American Corp., Caisse Nationale des Telecommunications, Republic of Finland, Ito-Yokado Co., Ltd., Midland American Capital Corporation, Nippon Telegraph & Telephone, Novo Industri A/S, Rodime plc, TDK Electronics Co., Ltd. and Tricentrol PLC.

Our expertise in sales and trading activities includes equity and fixed income market making, block trading, options trading, securities arbitrage, and commodities and financial futures; all supported by an outstanding investment research team.

On a worldwide basis, we provide assistance to our clients in Eurobond financing, medium- to long-term currency transactions, syndicated bank loans, project financing, and government and corporate advisory services. And we are one of the foremost factors in transnational mergers and acquisitions.

Goldman Sachs has a firm commitment to international banking among all of its over 4,000 employees based in 16 offices across the United States and overseas.

Henkel

During the past decade, HENKEL's activities grouped within its U.S. subsidiaries have demonstrated successful growth. 1983 sales exceeded $400 million, and business is geared toward continued development with emphasis on growth areas where Henkel has superior technology to meet specific customer needs.

Henkel of America, headquartered in New York, is the holding and management organization for Henkel's business in the United States. The principal operating organization is Henkel Corporation, Minneapolis, Minnesota, which is structured into four decentralized divisions and two central staff support groups: technology and administration. Each of the divisions contributes significant portions to sales and profits. The product lines are diversified and serve many customer groups in various countries.

The Functional Products division manufactures and sells food ingredients, water soluble polymers and natural Vitamin E. The Chemical Products division encompasses a broad line of specialty chemicals such as resins, adhesives, organic specialties for cosmetics, leather and textile auxiliaries and operations in Canada. To a large extent, products are based on natural, renewable raw materials such as fats and oils, wheat, soy beans and guar gums.

Amchem Products, Inc., Ambler, PA, which is another division of Henkel Corporation, makes inorganic specialties for metal treatment and rust prevention for automotive, container and metal fabrication industries.

The fourth division combines the Minerals Industry business and International Subsidiaries of Henkel Corporation in Brazil, Mexico, Venezuela, Italy, Ireland, Japan and South Africa. Mining chemicals are primarily sold to copper and uranium recovery companies worldwide.

In 1983, approximately 3,000 people worked within the Henkel of America group. Henkel has 13 production locations in the United States.

The parent company, Henkel KGaA, headquartered in Duesseldorf, had worldwide sales of DM 9+ billion in 1983. With approximately 100 affiliates throughout the world, foreign sales, including exports from Germany, accounted for 65 percent of total sales.

Aluminum

The limit is your imagination.

Imagine a product, both strong and lightweight.

A product attractive in appearance and adaptable to your needs.

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Imagine an aluminum company that listens to your ideas and contributes some of its own. A company that produces to your rigid specifications and delivers on time.

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VAW aluminum

V.A.W. OF AMERICA, INC.

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Helaba Frankfurt
Hessische Landesbank -Girozentrale

Headquartered in Frankfurt and an integral part of the city's domestic and international banking community, HESSISCHE LANDESBANK is among Germany's top 100 banks, with total assets at the end of 1984 of more than DM 66 billion.

As a large German universal bank concentrating on wholesale banking, Hessische Landesbank offers a comprehensive program of facilities geared to the needs of big corporations, governments and government entities, and financial institutions. These facilities include:

—International financing with special emphasis on medium- to long-term fixed-rate DM loans. The Bank's global lending commitments are currently spread over more than 50 countries.

—Foreign trade financing, including documentary credits, letters of credit, government guaranteed export loans, non-recourse export financing (á forfait), and international payments and collections. The Bank is a member of S.W.I.F.T.

—Foreign exchange dealing, not only for the Bank's customers and Hesse's Sparkassen, but also as market maker for its worldwide correspondents in spot, forward, and Eurocurrency deposits.

—Money market operations, serving central banks, other financial institutions and corporate clients.

—International capital market financings, including Euro-DM issues, publicly offered foreign currency issues, private placements, and foreign share placements.

—Investment advisory services and portfolio management. Hessische Landesbank is in permanent contact with banks and securities dealers in all major international security markets.

—Euromarket financing and services through its wholly-owned Luxembourg subsidiary, Hessische Landesbank International S.A., full-service branches in New York and London. These facilities abroad and an active global network of correspondent banks provide Helaba's clients with the full scope of international services.

Hessische Landesbank acts as banker to the State of Hesse and performs clearing and other centralized services for Hesse's 52 regional Sparkassen, both of which are its shareholders.

HOESCH

For over a century, the name "HOESCH" has been synonymous with the steel world. Started as a family business in 1871, Hoesch has grown into one of the most important German producers of steel and steel finished products.

Many contributions to technical progress, especially in the fields of metallurgy of iron and the production and processing of steel, as well as strong impetus to industrial development and marketing growth mark the path of this company up to the present time.

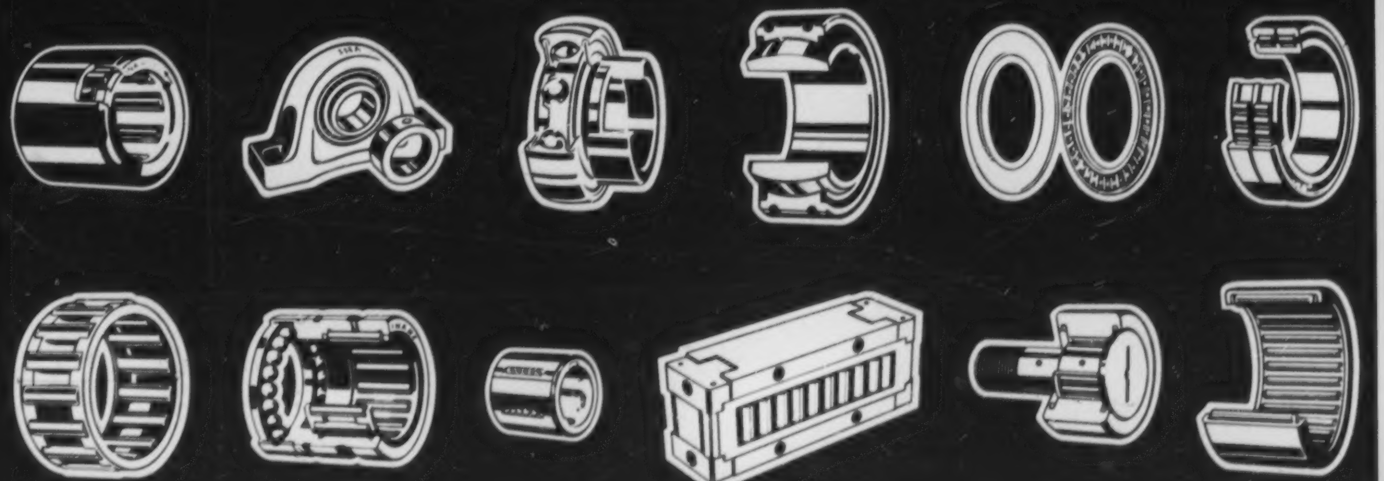
Our products range from semi-finished steel to rolled steel in all grades, such as sheets and plates, bars, sheet piling and mining sections. Our processed steel include such coated products as galvanized, plastic-coated sheets and tin plate; special sections, steel strapping, pipe and tubing, as well as castings and forgings. Hoesch is an important factor in the manufacturing of machinery and heavy equipment.

With all this capability, it was only natural that the Hoesch group expanded its activities worldwide, and today has offices and representatives, as well as manufacturing plants, in

INA

Progressive Bearing Technology

Contact the experts at
INA Bearing Company, Inc.
P.O. Box 241328, Charlotte, NC 28224



every major country in the world.

Hoesch America Inc. was started in the U.S. in 1957 and the main purpose was to cover an important market for the Hoesch group. Over the years it led to a steady growth of international trading, including exporting from the U.S. to various countries in the world. Hoesch America became a significant member of the international steel community.

In the 1960's Hoesch decided to further invest in the U.S. and today owns several successful manufacturing plants.

Hoesch Tubular Products Co., Baytown, TX is engaged in upsetting, heat treating and threading of oil country tubular goods. The plain end tubular goods in sizes 2.3/8" through 13.3/8" are manufactured at the Hoesch pipe mill in Germany, imported into the U.S. finished at Hoesch Tubular Products and sold in the U.S. for oil drilling.

Delta Strapping Industries Inc., New York, NY is a manufacturer of plastic strapping tools and seals, and distributor of steel strapping and accessories.

Rotek Inc., Aurora, OH is a manufacturer of bearings, seamless rolled rings and carriage parts, as well as closed die forgings, which are sold to equipment manufacturers of cranes, excavators, dredgers, railway turntables, rotary furnaces, material handling equipment and similar heavy-duty equipment.

PHILIPP HOLZMANN
Aktiengesellschaft

PHILIPP HOLZMANN AG has developed from a family business to its present eminence as a construction company with activities world-wide. First active primarily in railway construction, the firm was founded near Frankfurt am Main in 1849. Quite early the firm extended its work to all fields of building and heavy construction, taking on the building of the Main Railway Station in Amsterdam in 1882, its first major contract outside Germany, and beginning construction of the Turkish railways in 1892. Thus was founded the Holzmann tradition of being active in all phases of planning and construction in many European countries, as well as in the Americas, Asia and Africa.

Philipp Holzmann AG is today one of the largest international construction companies, providing turnkey projects, including planning, construction, start-up and management, as well as reconstruction and modernization of buildings and technical plants to complete operational readiness.

The firm's organization and work in specific areas is tailored to market and client requirements. The general management as well as departments for foreign business and inter-regional construction activities are in Frankfurt am Main. Holzmann's German activities are carried out by around 30 branches. More than 30 domestic and foreign member companies are engaged in special fields of construction. Holzmann is present in the U.S.A. through J. A. Jones Construction Company, Charlotte, NC and Lockwood Green Engineers, Inc., Spartanburg, SC and other companies. Jones is among the leading companies in building construction. Lockwood Green plans all types of engineering projects.

In 1984, the Holzmann Group world-wide had sales of 8.1 billion DM, some 2.9 billion DM in the U.S.A., 2.6 billion DM in Germany and 2.6 billion DM in other countries.

INA

INA BEARING COMPANY, INC. is part of a worldwide organization known for the quality and reliability of its needle roller and other anti-friction bearings.

From its small beginnings in 1945, the company has grown rapidly by pioneering scores of new products. INA Needle Roller Bearings have provided designers in many industries, particularly the automotive and machine tool industries, with a solution to their various problems. Their space-saving design made the use of roller bearings possible where previously only plain bearings were used.

Over the years, the original range of INA Needle Bearings has been extended to encompass a much wider variety of rolling bearings. These include bearings for both light and heavy duty applications, as well as bearings for rotary and linear motion.

Today, more than 14,000 INA employees throughout the world produce over 10,000 different types of precision rolling bearings, of which a high number are made to customers' individual requirements. Specifically, our product line includes a large variety of unit cages, shell bearings, needle roller bearings—radial and thrust, combination bearings, precision ground bearings, ball bearings, linear motion bearings and slewing rings.

INA Rolling Bearings are manufactured in 16 plants worldwide. A network of 19 INA companies and 26 agencies provide reliable service and excellent communication with our customers.

All worldwide market research together with production and application experience is collated at the parent company in Herzogenaurach near Nuremberg. Thus, a continuous interchange results between the various INA locations and ensures that the latest technology is shared worldwide. This is reflected in the advanced state of the art of all INA products.

In the United States, INA has two manufacturing plants in South Carolina, with a third currently under construction. The Corporate Offices, presently located in temporary quarters in Charlotte, North Carolina, will be transferred at the beginning of the year to our new building in Fort Mill, South Carolina. INA's Corporate Offices maintain a competent staff of sales and engineering personnel, ready to fill your bearing needs.

IET

INTERNATIONAL EXHIBITS TRANSPORT INC. built an international reputation of first-class freight forwarding service of exhibits from the United States to countries around the world and vice versa. IET is one of the very few companies worldwide which specialized in the transportation of exhibits only since the day it was formed. This means that every person contacted in the company is truly a professional on the subject of handling exhibit material. There are no transfers to a special department. IET believes this way it can give all exhibiting companies and fair organizers the maximum professional service such a specific targeted event calls for.

IET offers companies involved in international trade fairs and exhibitions door-to-door service (delivery to booth) no matter where the show is located or what kind of exhibit material is involved, ranging from high technology goods to heavy machinery.

Services provided include the following: the outlining of deadlines for movement of freight to consolidation locations, shipping costs, methods of transport, necessary documentation, commercial invoices, descriptive forms, shipping labels, sketches for odd-sized cargo, and all other appropriate services. By grouping exhibits for shipment in consolidation lots, the shipper benefits from lower freight rates.

Once cargo reaches its destination, International Exhibits Transport makes arrangements for moving all goods from the port-of-entry to its final site, in cooperation with a local freight forwarder who has been officially appointed by exhibition organizers. Experienced staff from International Exhibits Transport, Inc. is present at the fair site to oversee all final operations and to assist exhibitors.

The main purpose of every exhibition for the participating companies is to sell their products. IET believes that it can make the difference by giving its sole attention to the fact that every exhibitor can focus exactly on this issue and not be distracted by problems and delays of their exhibit material.

International Exhibits Transport is one of the few experienced freight contractors for transporting cargo to international exhibition sites and has become a major factor in the international exhibition industry.

JAUCH & HÜBENER

INSURANCE BROKERS

JAUCH & HUBENER, founded 1919 in Hamburg, today ranks among the top insurance brokers in Europe. The privately-held partnership has 700 employees in Germany and subsidiaries in Austria and Switzerland.

Apart from the employees of the international departments in Hamburg, Mulheim, and Frankfurt as well as the foreign subsidiaries, Jauch & Hubener has representatives in Singapore, New York, Johannesburg and São Paulo.

By the early 1950's the company began developing international business on an ever-increasing scale. For this reason, a central international department was established, staffed with specially trained employees, many of them with overseas training and experience.

The goal of this department in the context of UNISON is to develop, coordinate and update international insurance programs. UNISON is an organization founded by leading European insurance brokers and Johnson & Higgins.

Since 1968, international pension plans have been developed in cooperation with UNISON BENEFIT CONSULTING, a multinational correspondent company. UNISON BENEFIT CONSULTING engages in the development and administration of international Employee Benefit Plans.

A further cofoundation of Jauch & Hubener and its correspondents is PLC (Property Loss Control) Brussels. PLC Brussels offers consulting services for companies similar to those available to American highly protected risks.

In the U.S., Jauch & Hubener works through Johnson & Higgins, one of the largest insurance brokers with 40 offices in this country. The correspondent network of UNISON and BENEFIT CONSULTING firms are equipped with offices throughout the world.

KMG

KLYNVELD MAIN GOERDELER (KMG) is the fourth largest accounting firm in the world with 27,500 professional and support staff in 436 offices throughout the world. Its prominent member firms in more than 65 countries include KMG Main Hurdman in the United States, Deutsche Treuhand-Gesellschaft in Germany, Fides Revision in Switzerland, and Alpen-Treuhand GmbH, in Austria.

KMG Klynveld Main Goerdeler

Certified Public Accountants

KMG Main Hurdman in the United States, **KMG Deutsche Treuhand-Gesellschaft** in Germany, **KMG Fides Revision** in Switzerland and **KMG Alpen-Treuhand GMBH** in Austria, major members of the KMG international organization, work together to provide services in:

ACCOUNTING
AUDITING
TAX
MERGERS & ACQUISITIONS
MANAGEMENT CONSULTING SERVICES
REGULATORY ADVICE

for German, Swiss and Austrian business in the U.S.

We have German CPAs residing here in the U.S. to help German businesses meet the needs of their parent company and requirements of their respective home country.

KNOWLEDGE WHERE IT IS NEEDED

Park Avenue Plaza
New York, N.Y. 10055
(212) 909-5745
Telex 129213 KMG USA

KMG Main Hurdman, in the United States, maintains a close working relationship with the German-speaking member firms of KMG. Through its more than 80 offices, KMG Main Hurdman is well-qualified to provide accounting related services for German-based companies doing business in the United States and for U.S. firms with interests in Germany.

Auditing Services: Main Hurdman is skilled in the examination of financial statements prepared in response to U.S. or German reporting requirements, and attuned to the needs of the regulatory authorities and financial institutions in both countries.

Tax Services: The firm's wide range of tax services include tax planning; advice and assistance in complying with local, national and foreign tax laws; assistance in dealing with tax authorities, and counseling on tax problems of individuals and corporations. Its fiscal expertise extends to other tax-related areas such as mergers and acquisitions, transfer pricing, expatriate tax services, forms of business organization for multinational entities, offshore financing and operating in duty-free zones.

Management Consulting Services: KMG Main Hurdman's consulting services are designed to assist management by providing professional services in areas where internal expertise is not available. Services include advice on designing and implementing management information and financial reporting systems to meet subsidiary and parent company requirements, designing electronic data processing applications, budgeting, production planning, inventory control and project planning.

All professional services are performed under the direction of a KMG Main Hurdman engagement partner, who can draw upon the full resources of the firm, including its national and international tax expertise. For U.S. branches or subsidiaries of German companies, the engagement has the additional support of several KMG-Wirtschaftspruefer assigned to the National Office of KMG Main Hurdman.

KKA Karlsruher Kongreß- und Ausstellungs-GmbH

KARLSRUHE and its modern Stadthalle offers new perspectives for the congress and exhibition business.

Karlsruhe, the business metropole on the Upper Rhine, home of the Highest Federal Courts and the oldest technical university in the Federal Republic of Germany, offers new perspectives.

With the sum of DM 132 million, a modern congress, concert and special events hall has been erected on the site of the old Stadthalle. Behind the historic pillared facade a most modern congress building was taking shape.

The white marble-faced three-storey central section which houses five major halls rises from the middle of the building. A light well extending from the roof to the ground floor separates the central section from the five-storey outer section. The outer section contains the foyers, seminar rooms, technical facilities and a restaurant.

The latest structural and communications technology is integrated harmoniously into the architecture.

New directions in terms of seating comfort and congress technology were explored with the development of the "Karlsruhe Congress-seat", combining the advantages of permanent tiered seating with those of flexible congress seating. A special system allows the congress delegate to enter or leave his seat without disturbing his neighbour. The chair converted into a desk in every second row, can be simply and silently turned to the side, making the way free to the 65 cm wide aisle behind the next row of chairs.

The new suitableness of Karlsruhe proves

Kenny, Kindler & Hunt

Executive Search Consultants

Roger M. Kenny **Peter A. Kindler** **James E. Hunt**

780 Third Avenue New York, New York 10017 212-355-5560

itself also in the room partition of the 32,000 sq.m.gross storey surface. The concert-and congress hall in the upper storey accommodates 1,900 visitors. Five further halls for 100, 320 and 700 persons and a press center as well as a big number of conference - and seminar rooms, render the congress organizer all imaginable facilities.

Altogether the Karlsruhe Congress and Exhibition Centre is in a position to offer more than 16,000 seats and alternatively over 20,000 sq.m. of exhibition and information space with the then remaining 6,800 seats.

Karlsruhe's congress experts, with their many years of experience in the organisation and running of congresses and exhibitions, guarantee a comprehensive full service oriented to the wishes of the client. The Congress and Exhibition Centre, run as a private limited company, ensures flexibility, the ability to make decisions quickly and a high standard of services.

Kenny, Kindler & Hunt

In today's global economy, companies are challenged by dramatic changes in U.S. business practices. This environment often creates the need for new management expertise and may cause companies to look outside their organizations in order to find highly qualified and sensitive Americans to assume key positions. Executive search firms should be retained to ensure that a company is able to consider the widest range of qualified candidates quietly and efficiently.

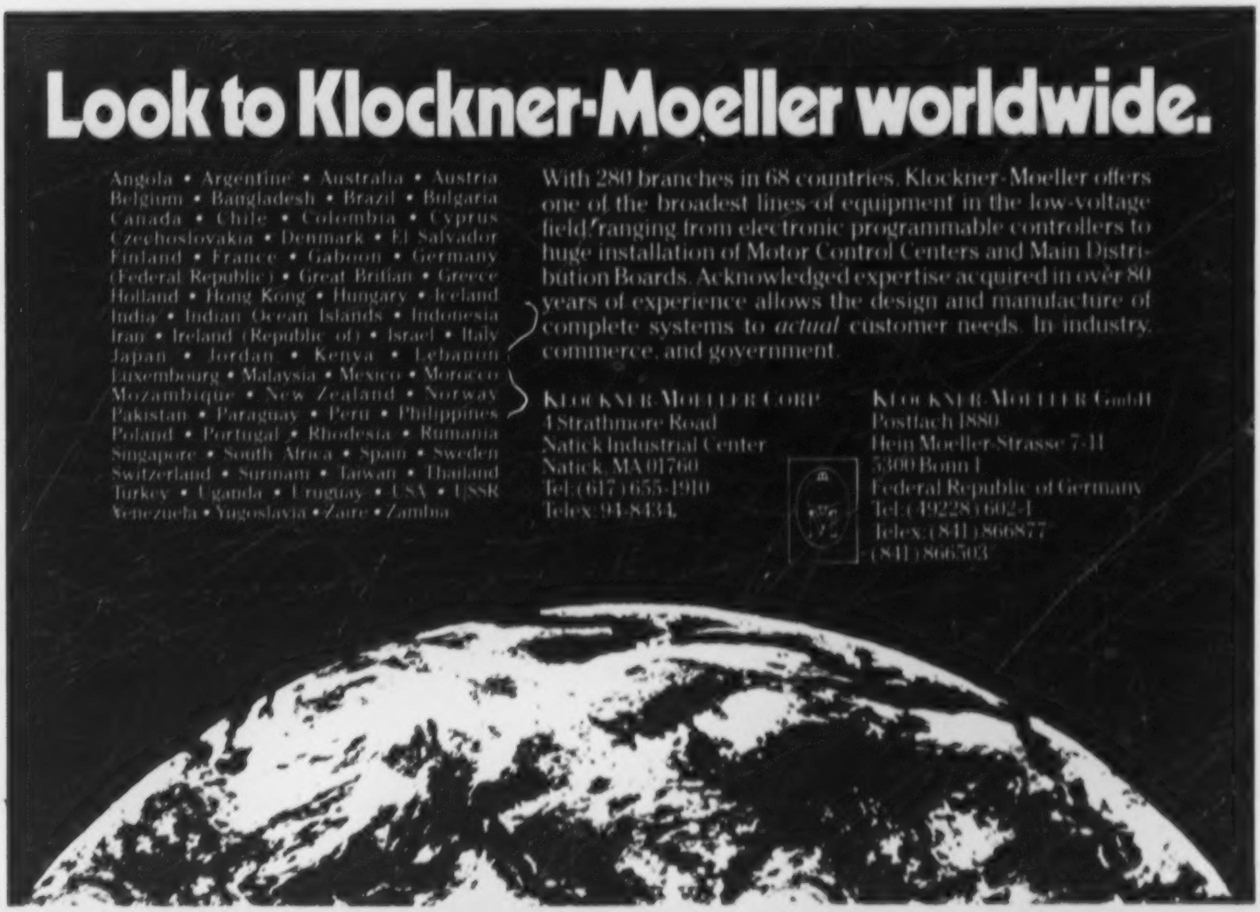
KENNY, KINDLER AND HUNT is a search firm uniquely qualified to assist companies in attracting the best management talent in a broad range of industries. The firm is a partnership of three experienced search professionals that has deliberately limited the size of its practice to avoid client conflicts and to ensure complete confidentiality. A search strategy tailored to each client's objectives is developed and executed by the partners of the firm.

Kenny, Kindler and Hunt's proven executive search practice offers clients the benefit of over forty years of experience conducting top-level assignments for multinational corporations wanting access to the best talent in this country. The firm is dedicated to the highest professional standards and it is committed, without exception, to the successful completion of every assignment.

KLOCKNER-MOELLER CORPORATION, a subsidiary of The Klockner-Moeller Elektrizitaets GmbH, located in Bonn, is a recognized worldwide leader in production of low voltage industrial motor controls. Combining over eighty years of experience with state of the art engineering techniques and international field branch service, Klockner-Moeller guarantees their clients total satisfaction.

Klockner-Moeller manufactures a full line of Industrial Electric Controls and Electronics such as: Motor Control Centers, Main Distribution Boards, Circuit Breakers, Interruptors, Fusible Disconnect Switches, Motor Starters, Heavy Duty Pushbutton Units, Pilot Devices, Control Relays, Limit Switches, Custom Contact Panels as well as Solid State Relays and microprocessor-based Freily Programmable Controllers. All products are designed and tested to meet national and international manufacturing standards.

Klockner-Moeller's eight independently operated factory branches across the USA provides access to first rate technical service. USA branch locations are: Fairfield, New Jersey; Tulsa, Oklahoma; Atlanta, Georgia;



Look to Klockner-Moeller worldwide.

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With 280 branches in 68 countries, Klockner-Moeller offers one of the broadest lines of equipment in the low-voltage field, ranging from electronic programmable controllers to huge installation of Motor Control Centers and Main Distribution Boards. Acknowledged expertise acquired in over 80 years of experience allows the design and manufacture of complete systems to *actual* customer needs. In industry, commerce, and government.

KLOCKNER-MOELLER CORP.
4 Strathmore Road
Natick Industrial Center
Natick, MA 01760
Tel: (617) 655-1910
Telex: 94-8434.

KLOCKNER-MOELLER GmbH
Postfach 1880
Hein Moeller-Strasse 7-11
5300 Bonn 1
Federal Republic of Germany
Tel: (49228) 602-1
Telex: (841) 866877
(841) 866503

Chicago, Illinois; San Francisco, California; Los Angeles, California; Houston, Texas and Cleveland, Ohio.

GEBRÜDER KULENKAMPFF AG, founded in 1806, is an international trading company with a world-wide network of subsidiaries, branches and agencies.

In 180 years of existence, GK has acquired a leading position in its sole import activity, leaf tobacco, as one of Europe's most recognized companies in its field. Having been privately owned for more than 175 years, GEBRÜDER KULENKAMPFF AG was transformed into a corporation in 1985. With annual sales exceeding U.S. $165 million, GK ranks among the leading trading houses within the Bremen business community.

In the field of technical products GK has gained a reputation as specialized exporter of machinery, parts and supplies to the minerals, energy, construction and transport industries.

In addition, GK is active in the transfer and management of licences, thus providing international manufacturers with patents, processes and know-how in the absence of research and development facilities.

GK provides international cement manufacturing companies, underground and open pit mines, manufacturers and distributors with machinery, process equipment, supplies, and a complete range of wear parts. GK's specialized parts supply system is aimed at those international mills, mines and processing plants in need of genuine OEM parts, but which find their present purchases too costly. For the cement and mining industry GK also renders consulting, erection and commissioning services.

In addition to sixteen active international subsidiaries serving GK's tobacco interests, there are associated companies in Pittsburgh, PA, USA, and London, England, as well as numerous agencies at all important trading centers in Africa, Australia, the Middle East and Southeast Asia, rendering technical sales support.

GK also has a financial interest in INTERTRACTOR, Gevelsberg, Germany, with a workforce of 650, annual sales of more than U.S.$100 million, manufacturers of crawler undercarriages, OEM suppliers to the world's leading construction and mining equipment manufacturers.

Renowned worldwide for excellence in many spheres of industrial activity, FRIED. KRUPP GmbH of Essen, West Germany, has a long-standing commitment to serving the U.S. market.

Krupp operates many subsidiary companies in the USA:

- Krupp Industries Inc., Bridgeville, Pennsylvania, has three major Divisions:
  - a) The Krupp Industrietechnik (KI) Division, with offices in Houston, Texas and Seattle, Washington, offers a wide range of plant and equipment: bulk handling facilities, metallurgical plant, rolling mill installations, cranes, edible oil plant, crushers, and drilling equipment for the mining, oil, water and construction industries.
  - b) The Krupp Kautex Machines (KKM) Division, Linden, New Jersey, offers modern extrusion blow-moulding plastics machinery and PET injection moulding systems.
  - c) The Krupp Atlas Elektronik (KAE) Division with branches in Houston, Seattle, and Rahway, New Jersey, serves the marine markets with radar and collision avoidance systems, shiphandling simulators and sonar-operated fish-finders. The KAE-Division also offers highly specialized hydrographic survey equipment for rivers and coastal waters.
- Krupp Rubber Machinery Corp., Kent, Ohio, supplies state-of-the-art rubber and tire machinery.
- Krupp Corpoplast Service Agency USA, Alexandria, Virginia, offers advanced stretch blow-moulding plastics machinery.
- Polysius Corporation of Atlanta, Georgia, offers ultra-modern cement plant including process automation.
- Krupp Wilputte Corporation, Murray Hill, New Jersey, has a wealth of experience in the design and construction of coke-oven plants, high-temperature hot blast stoves, sinter plant, coal by-product and gas treatment facilities, auxiliary machinery, gasification plant for solid and liquid fuels, and pollution control equipment.
- Krupp MaK Diesel Inc., Glenview, Illinois, markets the product lines of Krupp MaK, Kiel, West Germany: mainly marine diesel engines and diesel generating sets.
- Krupp Widia Corp., Deerfield, Michigan, markets WIDIA® hardmetal tools for metal cutting and forming, mining and quarrying.
- Dentex Research Development Corp., New York, with its Division Neoloy Products, Inc., Posen, Illinois, makes dental products under the umbrella of Krupp Medizintechnik, Essen, West Germany.
- Krupp Steel Products Inc., Houston, Texas, with branches in New York and Chicago, offers a complete range of carbon-, alloy- and stainless-steel sections, strip and sheet. Forgings are supplied to various US industries.

LEYBOLD-HERAEUS are successfully meeting for many years the exacting technological challenges of the North American market. Vacuum technology and its process applications today are base technologies indispensable for research, develoment and production in all fully industrialized countries. Neither microchips nor modern data storage media nor high-grade materials for space travel would have been possible without vacuum processes.

Along with the worldwide penetration of vacuum technology and process engineering the commitments of Leybold-Heraeus have expanded all over the world. Originating from the two companies W.C. Heraeus, Hanau, and E. Leybold, Cologne, founded in 1850 and 1851 respectively, Leybold-Heraeus today is jointly owned by W. C. Heraeus GmbH, Hanau, Degussa AG and Metallgesellschaft AG, both in Frankfort/Main, Federal Republic of Germany. Sales have been increasing over the last ten years at an average annual rate of 11% up to 868 million Deutsche Mark of which about 40% have lately been accounting for the US market.

The expenditure for research and development amounts to approx. 8% of the sales figure, and Leybold-Heraeus has thus become the world's largest concern in the field of vacuum technology.

A few examples may illustrate the wide range and depth of involvement of applied vacuum technologies:

—Materials for microelectronics components and their functional films

—Magnetic layers for data storage media

—Optical thin films for spectacle lenses, photolenses and space telescopes

—Infrared or ultraviolet analysis of gases up to systems for displaying traces on transparent materials (dactyloscopy)

—Ultracleaning of reactive and refractory

EQUIPMENT
WEAR PARTS
ENGINEERING

GK
serves the
MINING
CEMENT
BULK SOLIDS
Industry

GK
supplies
CONVEYING
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Equipment

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helps with
ENGINEERING
LICENSING
and a prompt
PARTS
Service

GK Gebrüder Kulenkampff AG
Altenwall 17–18 2800 BREMEN GERMANY P.O.Box 103869
Phone (0421) 3659-0 Telex 245438 Cables Kulex

metals, such as titanium, zirconium and their alloys

—Deposition of anticorrosive protective layers on components exposed to high thermal stress

—Vacuum generation systems for preservation of foods up to gas supply systems for carbon dioxide lasers

The activities of the Leybold-Heraeus corporate group, today including 20 subsidiaries, span the globe. The USA occupies an exceptional position as a market of undeniably greatest technological importance in the world. Here the growth rate for Leybold-Heraeus products is higher than the world average. Today already 50% of LH products sold in the USA are produced inside the country.

By the end of 1984, a new Leybold-Heraeus Inc. sales and service organization for the USA, the Leybold-Heraeus Inc., 1860 Hartog Drive, San Jose, CA 95131 started operations from its California Headquarters. The activities of Leybold-Heraeus Inc. include marketing of the products of the four Leybold-Heraeus US Subsidiaries:

Leybold-Heraeus Vacuum Products Inc., 5700 Mellon Road, Export, PA 15632: Vacuum pumps, pumping systems, helium leak detectors, vacuum gauges, vacuum accessories and surface analysis equipment.

Inficon Leybold-Heraeus Inc., 6500 Fly Road, East Syracuse, N.Y. 13057: Residual gas analyzers, pressure converters, mass spectrometer systems, vacuum deposition and thin film controllers.

Leybold-Heraeus Technologies Inc., 120 Post Road, Enfield, CT 06082: Crystal growers and production sputtering systems, vacuum metallurgy, electro-optical coating systems.

Leybold-Heraeus Vacuum Systems Inc., 120 Post Road, Enfield, CT 06082: EB welding systems and technology.

In view of the importance alone of the semiconductor industry, we have set up a Leybold-Heraeus branch establishment at the West Coast in San José, CA.

Lufthansa

LUFTHANSA GERMAN AIRLINES reported a surge in profits for 1984 and its best business year since the company's founding. Total revenues rose 17.6 percent to DM 10.4 billion ($3.29 billion) and net profit was DM 162 million ($51.35 million), an increase of almost DM 100 million ($31.7 million) over the previous year.

The airline transported 15.3 million passengers on scheduled services, and an additional two million on Condor, the company's passenger charter subsidiary. Air freight reached record levels: 525,000 metric tons for Lufthansa and 35,000 metric tons for German Cargo Services. Together with 60,000 metric tons of air mail, this brought a further rise in capacity utilization—improving the revenue load factor by four points in 1984 to 67%.

The Lufthansa work force of about 37,000 personnel—up by only three percent on the previous year's figure—improved productivity in operating results by nine percent. To cope with business growth and expansion plans, Lufthansa is recruiting an additional 3,000 personnel in the current fiscal year. Two thousand trainees are currently taking engineering or business courses in 20 professions, or training for ground jobs or as flight attendants or pilots.

Capital expenditures in 1984 doubled, to DM 1.3 billion ($412 million). In 1984 Lufthansa recorded its highest profit ever in flight operations—DM 509 million ($161 million), up from DM 110 million ($34.87 million) in 1983. Revenue from flight operations was DM 8.507 billion ($2.696 billion), up DM 1.16 billion ($368 million) from the previous year. However, costs increased only DM 762 million ($241.5 million) to DM 7.99 billion ($2.53 billion).

Sold capacity increased 12.1% in 1984, to 4,791 billion ton kilometers. Passenger demand increased 8.2%, while paid freight was up by a substantial 16.5%. In some market sectors, the increase in business was almost booming. This was a reflection of general improvement in the world economy; the greatest gains were in the Far East and in North America. The strong U.S. dollar reinforced growth in the highly competitive North Atlantic market.

In 1985 alone, capital expenditure will increase to nearly DM 1.5 billion. Twelve new aircraft are going into service this year: three Airbus A310s with Condor and six Boeing 737s and three Boeing 747s with Lufthansa. Capital expenditures up to the year 2000 are expected to rise to DM 40 billion.

Seven A300-600s, costing about $600 million, are to be delivered in 1987. The company will invest $720 million in 15 Airbus A320s and $330 million in ten Boeing 737-300s. Options have also been taken out on three additional A300-600s, 25 A320s and ten Boeing 737-300s. While the A300-600s will be used to replace the A300-B4 on routes to West and Central Africa and the Middle East, the A320s will begin replacing the Lufthansa fleet of Boeing 727s in 1989 and 1990.

Delivery of the new Boeing 737-300s will begin in 1986. These planes are being bought by Lufthansa to provide more space and comfort to compensate for reduced seat capacity on short- and medium-haul routes. Together with the three Boeing 747s, due for delivery by 1987, Lufthansa is investing more than $2 billion in new aircraft between 1986 and 1990.

In the current fiscal year, Lufthansa is again anticipating good results, though with a lower profit than in 1984. The company continued its business upsurge in the first eight months recording substantial gains in operating revenue. Lufthansa transported 10.4 million passengers in the first eight months, an increase of 4.5%. Cargo was up slightly, 1.2%, to 347,300 metric tons, and air mail grew 9.3% to 43,200 metric tons.

LURGI

LURGI is a process-oriented engineering company, operating throughout the world. Its main fields of activity are environmental protection, upgrading of raw materials and energy technology.

Lurgi has over 200 processes relating to the design, supply and construction of complete turnkey plants, plant units and individual equipment, complemented by a wide-ranging know-how for plant contracting unrelated to a particular Lurgi process, including development of the infrastructure.

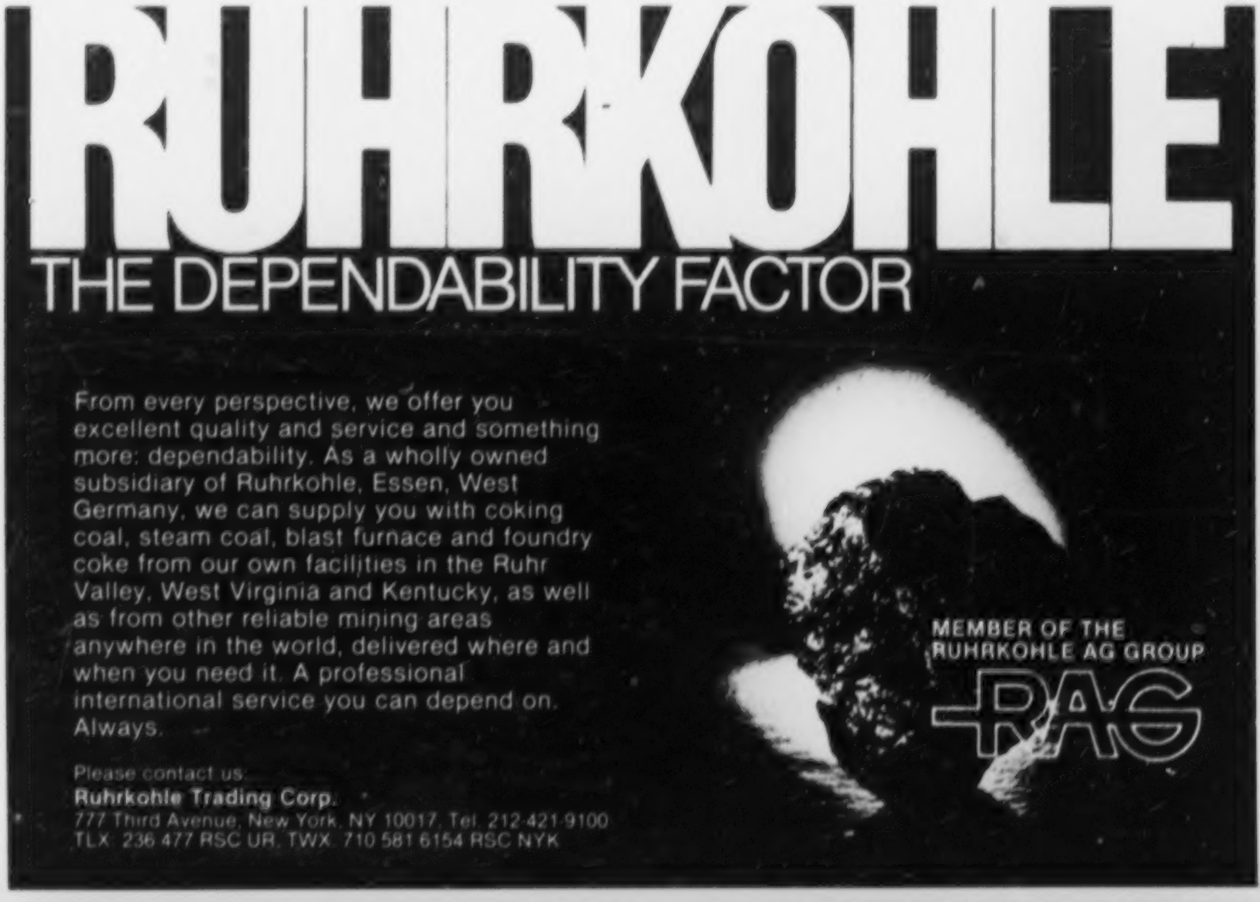
The company's nine operating divisions

- Water, Waste and Adsorption Technology
- Inorganic Chemistry
- Air Pollution Control Systems
- Gas Technology
- Coal Technology
- Metallurgy
- Hydrocarbon Technology
- Thermal Processes
- General Plant Contracting

are responsible for the marketing and further development of their know-how.

Lurgi's total capacity for proposal elaboration, project execution, research, development and after-sales service amounts to around 6.3 million hours per annum. Its international organization comprises 17 Lurgi companies abroad, 7 representative offices and agencies in more than 40 countries.

Lurgi has been active in the American market for decades, and since 1979 has been represented by Lurgi Corporation in River Edge, N.Y. and Belmont, CA.



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RAG

Within the Metallgesellschaft Group, Lurgi constitutes the Corporate Division "Plant Engineering and Contracting."

Activities and Services:

The organization and engineering practices of Lurgi GmbH enable each project to be realized on a flexible and individual basis. Lurgi is not dependent on company-owned manufacture of plant and equipment and is therefore free to select the most suitable manufacturers in terms of quality, reliability and financing, including those in the customer's country or in third countries.

Lurgi carries out consulting, engineering and management activities within the scope of project execution and also offers them a separate service. Experienced specialists provide every kind of service for construction projects, employing the most modern working practices: feasibility studies, proposals, procurement, quality control, expediting, erection and start-up, guarantee testing and training of the customer's personnel are typical features of Lurgi's extensive service program. An experienced project management team is available for every task.

Lurgi organizes the financing of industrial projects on a national or multinational basis. In cooperation with the countertrade specialists of Metallgesellschaft AG, Lurgi also helps its customers with the marketing of their products and develops overall plant concepts, taking in everything from the design and building of plants to plant management and the selling of the products.

Lurgi develops and licenses processes and equipment.

Lurgi tests raw materials and products in its Research and Development Center to determine their usability and to find the most efficient ways of utilizing them and applies the results to industrial practice.

Lurgi GmbH at present has a staff of about 4,000 in Frankfurt and about 1,000 abroad. 3,000 staff-members are engineers and technicians.

The turnover of Lurgi GmbH in 1982/83 was DM 1.8 billion, the flow of new orders DM 1.2 billion and the backlog DM 3.1 billion. All figures are consolidated in the Metallgesellschaft profit and loss statement, and thus Lurgi's financial results are not published separately.

M·A·N

Together with its subsidiaries, M.A.N. forms one of the leading transport, power and mechanical engineering groups in the world. M.A.N. offers complete plants, systems, products and services in the fields of

—Transportation

Trucks, buses and coaches, automotive Diesel engines; rail vehicles, marine Diesel engines, marine propulsion packages; floating docks, floating cranes; fixed and transportable bridges, ship-loaders and unloaders, port and container cranes, electric hoists.

—Power Generation

Steam power plants, steam turbines and steel foundations; heavy components and service for nuclear power plants; Diesel power stations, Diesel generating sets, cogeneration systems; gates, valves and dam equipment for hydraulic power plants; solar farms and wind energy converters;

—Mining and Material Handling

Plant and equipment for underground mining and transport as well as for surface mining (shaft winding plants, trackless vehicles, conveyor systems, stackers and reclaimers).

—Iron and Steel Mills

Plant and equipment for the production of iron, steel, ferro-alloys, non-ferrous metals and the processing of raw materials; jigs for coal preparation plants; steel mill cranes and electric hoists.

—Chemical and Petrochemical Industries

Turbo and screw compressors; heat recovery systems and syngas coolers, chemical waste incineration plants.

Coca-Cola
Coke is it!

"Coca-Cola" and "Coke" are registered trade-marks of The Coca-Cola Company

—Construction

Pumping stations and irrigation systems, pipeline and tank farm construction, special erection work, construction cranes.

—Printing and Graphic Arts

Sheet-fed offset presses; web rotary presses for offset, roto-gravure and letterpress.

M.A.N. also provides its clients with a wide spectrum of services including feasibility studies, design, engineering, procurement, erection, start-up as well as training of operating and maintenance personnel.

In the United States, American M.A.N. Corporation in New York (Tel.: 212/509-4545), Houston (Tel.: 713/680-3020), Oakland (Tel.: 415/430-0754) and Seattle (Tel.: 206/285-8191) is responsible for marketing, sales and services of M.A.N. products.

M.A.N. Truck and Bus Corp. in Charlotte, N.C. (Tel.: 704/376-6000) and M.A.N.-Roland USA, Inc., a leading manufacturer of printing presses, located in Middlesex, N.J. (Tel.: 201/469-6600) are U.S. based manufacturing and assembly plants.

MANNESMAN today is an enterprise whose worldwide scope of activities covers the fields of mechanical and plant engineering, production of pipe and tubular products using company-made steel, information technology and electronics as well as trading with its own and externally manufactured products.

The name of Mannesmann is linked to the first process for the manufacture of seamless steel tubes, invented by the brothers Max and Reinhard Mannesmann. The enterprise founded in 1890 was based on their inventions and expanded by adding welded steel tubes to its production range. It has since developed into one of the world's leading producers of steel pipe and tubing.

In a second phase of development, Mannesmann, began supplying its pipe mills with company-made steel. A vertically structured coal and steel concern was formed which not only produced its own raw materials, such as coal and crude steel, but also the finished pipe.

In the Sixties, a further phase of development began: based on decades of experience, the goal was to expand the areas of new technology and to open up new and promising markets. The most significant steps along the way were the divestiture of the ore and coal mines, the division of labor with the Thyssen company, the pipe mills of both companies being merged to form Mannesmann-Roehren-Werke. The acquisition, expansion, and internationalization of Rexroth, the hydraulics manufacturer, the acquisition of Demag, a world-renowned manufacturer of machinery, and the further development of the piping construction division into Mannesmann Anlagenbau were further steps in the framework of this phase of development.

The commitments entered into by Mannesmann in the market of informatics in the years 1981 and 1982, were another necessary step to secure the future of the enterprise even more, and thus to make jobs safer. The acquisition of Hartmann & Braun (measuring and automatic control systems), and Kienzle Apparate (data systems technology), as well as an interest in ANT Nachrichtentechnik (communications technology) are proof of the fact that the once chosen way to broaden the technological basis of the enterprise and to open up new markets of growth for it, is consistently followed up. Purposefully, Mannesmann is thus changing into a technology concern.

The capital stock of about DM 1.1 billion is held by approximately 180,000 shareholders, about 53,000 of whom are active or retired members of the Mannesmann staff.

In the US, the Mannesmann organization includes the following companies:

Mannesmann Capital Corporation, New York, NY

Barrett Electronics Corp., Northbrook, IL

Mannesmann Oilfield Tubulars Corporation, Houston, TX

Mannesmann International Alloys, Inc., Sugar Land, TX

Mannesmann Pipe & Steel Corporation, Houston, TX

Mannesmann Demag Corporation, Cleveland, OH

Mannesmann Demag Wean Company, Pittsburgh, PA

The Rexroth Corporation, Bethlehem, PA

Mannesman Tally Corporation, Kent, WA

Argo Instruments, Inc., Winchester, VA

DAIMLER-BENZ, which celebrates its 100th anniversary in 1986, is not only the world's oldest automaker, it is also the oldest to do business in the North American market.

In 1888, just three years after Gottlieb Daimler built the world's first motorcycle and two years after Carl Benz built the world's first car, Daimler made an agreement with John Steinway, the famed piano builder, giving Steinway a license to produce Daimler products in the United States, including engines, light trucks and passenger cars. This was eight years before Henry Ford's first experimental vehicle.

Since this pioneering effort, the Stuttgart-based firm has been part of the American scene. Today Daimler-Benz is represented in the U.S. by three major subsidiaries:

—MERCEDES-BENZ OF NORTH AMERICA, distributor of Mercedes-Benz passenger cars and industrial engines, with headquarters in Montvale, N.J.

—Freightliner Corporation, manufacturer and marketer of heavy-duty (Freightliner) and medium-duty (Mercedes-Benz) trucks, with headquarters in Portland, Ore.

—Mercedes-Benz Credit Corporation, with headquarters in Norwalk, Conn., serves Mercedes-Benz and Freightliner dealers with a wide array of financial services. (Details on Freightliner are covered elsewhere in this *SURVEY*).

MBNA's 431 sales and service dealers sell about one-sixth of the Daimler-Benz production of passenger cars, making it the parent company's largest sales subsidiary.

In 1985 MBNA's dealers sold approximately 85,000 units, and expect to market 90,000 in 1986. Ten Mercedes models, ranging from the popular 190 series to the exclusive 560SEC, are now offered in the United States. The three-pointed star has enjoyed a growing popularity as evidenced by the more than three-quarters of a million Mercedes-Benz cars now registered in this country.

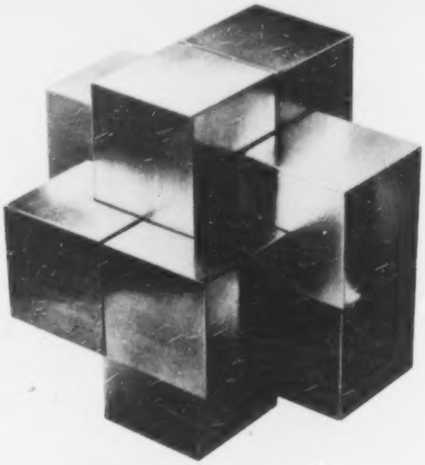
More than 1,600 persons are employed by the MBNA, and Mercedes-Benz dealers have an additional 10,000 employees. The company has seven zone offices—Montvale, Chevy Chase, Md., Jacksonville, Houston, Chicago, Los Angeles and San Francisco—to serve the dealer organization with sales and service assistance.

Mercedes-Benz passenger cars are shipped from Germany to the ports of Baltimore, Jacksonville, Houston, Los Angeles and San Francisco, where each is inspected at a vehicle preparation center near the port.

MBNA also operates four training centers in Montvale, Jacksonville, Chicago and San Francisco to keep dealership technicians up-to-date with the various technical advances in the company's product line.

In addition, MBNA has five parts distribution centers located near dealers and transportation hubs. These parts centers carry more than 36,000 line items, ranging from nuts and bolts to complete engines.

As part of its research and testing activities, the company also operates emission laboratories in Ann Arbor, Mich., Denver and Los Angeles to make sure cars continue to meet



A knotty problem.

If Alexander the Great had been confronted with this puzzle instead of the Gordian Knot, world history might have been quite different. It's the so-called Chinese carpenter's knot, a challenge to man's intellect since antiquity.

This replica, cast by Metallgesellschaft experts, consists of six metals we traditionally deal in: zinc, copper, tin, lead, aluminium and nickel. For 100 years, Metallgesellschaft has specialized in tackling the knotty problems of extracting these and other key metals and making them available to international markets.

To find out more about Metallgesellschaft's worldwide capabilities, just contact us.
We solve the knotty problems.

Metallgesellschaft.
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long-term partner.

Metallgesellschaft Trading Corp. · The Ore & Chemical Corporation* · MG Services Company, 520, Madison Ave., New York, NY 10022 · Metallgesellschaft AG, Reuterweg 14, D-6000 Frankfurt/Main · Metallgesellschaft Ltd.,** Three Quays, Tower Hill, London EC3R6DS · Further offices in Athen, Beijing, Braamfontein, Bucharest, Hongkong, Istanbul, Jakarta, Kuala Lumpur, La Paz, Lima, Madrid, Manila, Melbourne, Mexico City, Milan, New Delhi, Panama, Paris, São Paulo, Seoul, Singapore, Taipei, Tehran, Tokyo, Vienna, Zagreb.

*Member of Comex **Ring Dealing Member of the London Metal Exchange

federal and state emission standards.

Mercedes-Benz industrial engines are sold to manufacturers of electric generators, boats, agricultural equipment, earth movers, etc.

MBNA, along with Freightliner, Mercedes-Benz Credit and Mercedes-Benz Canada, is one of the companies that make up Daimler-Benz of North America Holding Company. In 1985 these firms employed nearly 6,500 persons, 2.20 percent of the approximate 295,000 persons employed by Daimler-Benz in more than 170 countries.

The METALLGESELLSCHAFT AG was incorporated in 1881 as a joint-stock company to carry on a longstanding Frankfurt metal trading business. In the course of the 100 years which have passed since then, Metallgesellschaft continuously expanded its activities by establishing new or acquiring existing plants and by merger with or participation in other companies. Today, the group of companies thus formed presents itself as a wide-spread organization in the fields of basic materials and capital goods as well as engineering and construction.

Metallgesellschaft belongs to the important enterprises of the West German industry; with a consolidated turnover of about DM 14 billion it occupies roughly 26th place. The MG Group with almost 25,000 employees worldwide engages in the exploitation and benefication of ores and industrial minerals for supply to its own smelters or chemical plants. Part of the metals produced as well as metals from other sources are processed into semi-finished and finished products in works of the Group. Together with the metal processing goes the manufacture of plastic goods by similar technologies. Metallic components of ores and their sulphur content form a basis for the production of chemicals, especially sulphuric acid, sulphur dioxide, white pigments, filters, barium, caesium, lithium and sodium compounds.

The trade in raw materials which was originally restricted to metals and ores, now also extends to other commodities: Sulphur, phosphates, fluorspar, alumina, rubber, coal and crude oil. The tasks connected with production, distribution and trading made it advisable to provide integrated transport and insurance services. The financial transactions of MG performed on an international scale are entrusted to its own bank.

The technological know-how, especially in the fields of ore preparation and smelting, chemical production, petroleum processing, upgrading of solid fuel, and environmental controls is offered on a world-wide basis by the Group's engineering companies. This extensive diversification is reflected by 5 Corporate Divisions which are grouped into 21 different Operating Divisions three of which are Trading Divisions. These Operating Divisions are largely independent and responsible for current business.

MG Services Company, New York, specialists in counter trade and barter, serve a wide variety of corporate and government clients.

NEOPLAN
USA CORPORATION

The word "excellence" may have been overused in the '80's, but there are still people and companies who exemplify its true meaning. NEOPLAN USA strives to be one of these companies.

Proof of NEOPLAN's success at achieving excellence is its celebration July 1st in Stuttgart, West Germany, of the parent company's 50th anniversary, and the opening of a second (sixth world-wide) bus manufacturing plant in Honey Brook, Pennsylvania. NEOPLAN USA will mark the fifth anniverary of its first

U.S. factory, located in Lamar, Colorado, on May 22, 1986.

Customer satisfaction is another sign of excellence. At the Grand Opening of the Honey Brook facility, Pennsylvania announced its order of an additional 900 NEOPLAN buses for its fleet. Pennsylvania's order of 1,000 NEOPLAN buses in 1981 was the largest single bus order in transportation history.

Companies dedicated to excellence are never content with the status quo. In 1984, NEOPLAN introduced another new bus to its product line, the Metroliner. The Metroliner is a suburban coach, designed for both tour and transit applications. It can be fitted for the handicapped, and features a 400 cubic foot luggage compartment. Both tour and transit companies appreciate NEOPLAN's high-quality German technology, and the benefit of NEOPLAN's integrated design; 90% of the Metroliner parts are identical to those used in other buses of NEOPLAN USA's product line. Most of these components are manufactured in the U.S. for customers' convenience when replacements are needed. NEOPLAN also maintains its own parts division, NEOPART, as well as a nationwide customer service network, to further facilitate its customers' maintenance programs.

Reliable customer service, constant attention to new developments in engineering and devotion to detail in producing current models —these are the foundations of NEOPLAN's success. This German/American corporation looks forward to another 50 years of dedication to excellence in bus manufacturing.

NEOPLAN USA CORPORATION, 700 Gottlob Auwaerter Drive, Lamar, Colorado, 81052-2298. Telephone: 1-303-336-3256. NEOPLAN USA SALES—ROLF RUPPENTHAL & ASSOCIATES, 825 South Broadway, Boulder, Colorado, 80303. Telephone: 1-303-449-4040.

NORTH AMERICAN LIFE AND CASUALTY COMPANY is a member of the Allianz of America family of companies, a growing German-owned insurance group in the United States.

NALAC provides Universal Life policies, term insurance, annuities, disability insurance and accident as well as stop loss coverage for self-funded health insurance plans.

Established in 1896, the Company was purchased by Allianz in 1979. Life insurance in force has grown to over $15 billion. The company is licensed in 49 states (Preferred Life in New York) and now ranks among the top 5% of all life insurance companies doing business in the United States today.

Best's Insurance Reports, accepted by the life insurance industry for its fair and comprehensive reports on insurance company operations, has assigned NALAC an "A+" (Excellent) rating. This excellent rating reflects Best's opinion of the relative strength of NALAC compared with other companies, based on averages within the life and health insurance industry.

NALAC's Individual Life Insurance Division concentrates its marketing efforts toward the independent producer or broker. Regional Sales Offices offer to such independent producers products and services which are primarily designed for the business and business owner.

Mass marketed Group Insurance Products are specifically designed for Associations and self-funded plans.

Based on its specific strength in the business insurance market and as a member of a worldwide operating insurance group, NALAC has committed itself to the German American business community. As coordinator of the Group Insurance program for the German American Chamber of Commerce, NALAC is a central partner in this service

NORTH AMERICAN LIFE
AND CASUALTY COMPANY

Allianz

We're responsive.

We meet specific needs of German American businesses — large or small — with a unique insight and understanding of the problems and opportunities facing international firms.

As coordinators of the GERMAN AMERICAN CHAMBER OF COMMERCE Group Insurance Program we've learned to listen to your problems and we speak your language.

NALAC is a German American firm and a member of the growing group of ALLIANZ OF AMERICA companies. Headquartered in Munich, the ALLIANZ group is one of the largest families of insurance firms in the world. Through NALAC, and in conjunction with ALLIANZ, German American businesses can benefit from knowledge, understanding and solid financial strength.

For more information, contact:

Michael M. Zyball, International Markets Department, North American Life and Casualty Company, 1750 Hennepin Avenue, Minneapolis, Minnesota 55403. 1-612-347-6509 or 1-800-328-5600

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package for small to medium-sized companies. NALAC is extremely responsive to German American businesses—large or small—so that these companies can benefit from knowledge, understanding and financial strength.

PREUSSAG

PREUSSAG was founded in Berlin in 1923. The Company, originally purely mining oriented, is today engaged in mining, smelting and trading of metals, plus transportation, energy and construction.

PREUSSAG AG, parent company of the PREUSSAG Group, ranks, with a share capital of DM 400 Mil. and approximately 20,181 employees, among the top 50 industrial enterprises in West Germany. The sales of PREUSSAG Group (world) in 1984 totalled DM 13.7 billion.

The Metal Division's business includes prospecting, exploring, smelting and processing of non-ferrous and pure metals with a total smelting capacity of 175,000 mt of zinc and 160,000 mt of lead. The London-based Amalgamated Metal Corporation PLC (AMC) and its Group Companies are active in international metal trading, in tin smelting and in other activities.

A leasing fleet of about 25,000 rail tank cars, 34 inland waterway ships and various inland and seaport tank farms form part of the services of the Transport Division. Furthermore 92 OSA supply ships are providing worldwide services for offshore drilling and production activities.

Natural exhaustion of domestic oil and gas production deposits led PREUSSAG to international exploration activities, partly concentrated in the United States, by participating through affiliated companies and subsidiaries in oil and gas producing properties, i.e. offshore Louisiana.

The main activities of the Construction Division in Germany and abroad are excavation, pipeline and waterworks construction and fire protection equipment.

Price Waterhouse

PRICE WATERHOUSE is recognized as one of the premier professional service firms. Our professionals provide a wide range of innovative accounting and auditing, tax, management consulting and specialized services to a diverse, worldwide clientele. Price Waterhouse member firms maintain more than 350 offices in 94 countries and territories, with a total staff of 25,000 men and women. The U.S. firm has 93 offices with over 700 partners and a total staff of over 8,500.

Our existing practice, which includes many of the most prestigious companies in the world, has earned us a reputation as a leader in providing the highest quality services. This position is the culmination of decades of constructive and innovative service to our highly valued clients.

Price Waterhouse and Treuarbeit's source of services, depth of experience and diversity of clients results in the collective and longstanding resources needed to provide superior and distinctive services. A total staff of over 1,000 professionals including 230 Wirtschaftsprüfer is located in offices in Berlin, Bonn, Bremen, Düsseldorf, Frankfurt, Hamburg, Hanover, Kassel, Kiel, Munich, Saarbrücken and Stuttgart.

Accounting and auditing—We audit the business, not just the books. Our clients receive services tailored to their specific circumstances, based on a thorough understanding of the business and the environment in which it operates. With our audit, manage-

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We in Bremen . . . . . . have, for generations regarded ourselves as a bridge between world markets and the German market. As a centre for the international trading of commodities of coffee, tobacco, cotton, timber, machinery and many other products, Bremen plays a part of major importance in international commerce. And as Bremen's longest established bank, our task is to make sure that business abroad has easy access to West Germany's internal markets, establishing contacts between potential business partners, financing projects of every size and description and handling all aspects of payments from one country to another. Our worldwide connections with about 600 banks in more than 50 countries and the experience of our specialist staff together provide the basis for our international services. Contact Sparkasse in Bremen and you will soon be convinced that you've chosen the right people to help you achieve business success here in Germany.

The Roland

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Foreign Trade Bank since 1924
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P.O. Box 10 78 80   Am Brill 1–3   2800 Bremen 1 F.R. of Germany

Some figures
on our performance
in 1984

- Balance sheet total: DM 9,17 billion
- Due from customers: DM 6,49 billion
- Due to customers: DM 6,89 billion
- Reserve funds: DM 0,37 billion

SWIFT

ment can be assured that we look for all opportunities for improvements. Our recommendations often point the way to significant economies, in addition to helping protect assets and provide more meaningful information to management.

We have U.S. professionals who are knowledgeable with generally accepted accounting principles and reporting requirements of German-owned businesses. They are also familiar with the EEC 4th and 7th Directives and have bilingual capabilities to facilitate communications.

Implementation of the EEC Directives is imminent, either voluntarily or by mandate. In addition to requiring consolidated financial statements, they also affect the internal reporting of foreign subsidiaries when submitting financial statements to German parent companies. Our professionals can assist management in complying with the Directives.

Tax services—Almost every business decision has tax implications, and close attention to tax planning and compliance has become increasingly important for business and individuals. Price Waterhouse tax professionals work closely with management to help minimize taxes and cope with ever expanding tax rules. They provide a full range of services, including: tax planning and tax return preparation; assistance with tax audits, expatriates and nonresident aliens. In addition, we have sophisticated computer-based systems that calculate foreign source taxable income, foreign tax credits, earnings and profits, and earnings repatriations.

The constant change in rules and regulations for doing business at home or abroad makes it imperative that we keep management informed. Among others, we do this by preparing a series of guides that provide comprehensive information on accounting and tax regulations, investment climates, and other business issues in individual countries. Of special interest to German/U.S. businesses are our publications, Doing Business in Germany, Doing Business in the United States, Investitionen in den U.S.A., U.S. Citizens Abroad, Foreign Nationals in the U.S., Doing Business in the European Communities, Investieren in U.S. Immobilien, Getting Government Help, and several bilingual guides for doing business in individual key states. These publications are available through our offices worldwide.

Management consulting services—Our worldwide complement of experienced consultants can provide practical advice on all facets of business operations, including financial management, information processing, EDP and inventory control systems, office productivity, strategic planning and comprehensive marketing services. Our management consultants help businesses define their goals and develop and implement the necessary strategies, organizational structures and information systems.

Rodenstock

The RODENSTOCK GROUP, with headquarters in Munich, is one of the world leaders in ophthalmic optics. The family-owned company entered its second century of operatons in 1977 under the management of Professor Dr. Rodenstock, currently the president of the Federation of German Industries (BDI).

In addition to six plants and eleven branches in Germany with over 6,000 employees, there are four German and seventeen foreign subsidiaries with several manufacturing facilities.

Rodenstock products cover a wide range: opthalmic lenses, a comprehensive line of plastic and metal frames and sunglasses, precision optics for commercial, industrial and scientific applications including photographic, enlarging, reproduction and X-ray objectives as well as a complete line of ophthalmological refracting and diagnostic instruments and automatic processing equipment for opticians.

In the United States the Group maintains the following operations:

Rodenstock USA, Inc., Danbury, CT
Rodenstock Corporation, Yauco, PR
Rodenstock Precision Optics, Morton Grove, IL
Felix Mendelson Co., Los Angeles, CA

A full range of progressive lenses, refracting and diagnostic instruments produced in Germany and the WECO instrument line are represented in the United States by Coburn Optical Industries, a Revlon subsidiary.

Steady growth and expansion continue to mark Rodenstock's active engagement in the United States.

Salomon Brothers

One of the oldest and largest investment banking firms in the United States, SALOMON BROTHERS has a worldwide reputation for innovation in corporate and governmental capital raising and a strong trading and risk orientation. Securities purchases and sales surpassed the $2 trillion mark in 1983. The year's average daily net inventory of securities was $8.4 billion. The firm's capital at the end of the year was a record $1.27 billion.

In 1983, Salomon Brothers surpassed all U.S. investment bankers as lead manager of domestic debt and equity securities offerings and was first in volume in private placements and mortgage finance. In both the domestic and international markets, it developed some of 1983's most creative financings, helping clients raise $91 billion in capital.

Salomon Brothers has long been noted for its risk orientation in the service of clients as it underwrites and trades on an international scale. With affiliates in London and Tokyo, the firm is one of the largest securities traders worldwide, dealing in a full range of financial instruments in the principal currencies. Trading activity is at the center of everything that Salomon Brothers does. It is a primary source of intelligence from the world's major financial markets, and it provides a base for assessing relative securities values in multi-currency dimensions. Some 500 trading and sales professionals utilize advanced computer-linked communications that constitute one of the world's most powerful securities distribution systems.

Another outstanding capability of Salomon Brothers is its economic and financial research, which is integrated with customer and market intelligence flowing through the trading rooms. Under the direction of Henry Kaufman, original research is performed via three departments—Bond Market Research, Stock Research and Bond Portfolio Analysis—by a total of more than 80 professionals, with 50 statistical and support personnel.

Research products include analyses of domestic and international fiscal and monetary policies, credit flows in the U.S. economy, currency-related securities values, yield differentials, corporate capitalizations, institutional portfolio strategies and analytical reports on industries and corporations. The Bond Portfolio Analysis Group performs a highly sophisticated service for institutional investors, advising customers on the structure of portfolios.

Salomon Brothers' performance is achieved through global teamwork. The firm integrates its skills and experience in investment banking, market making, research and marketing, and combines this approach with a readiness to commit substantial capital.

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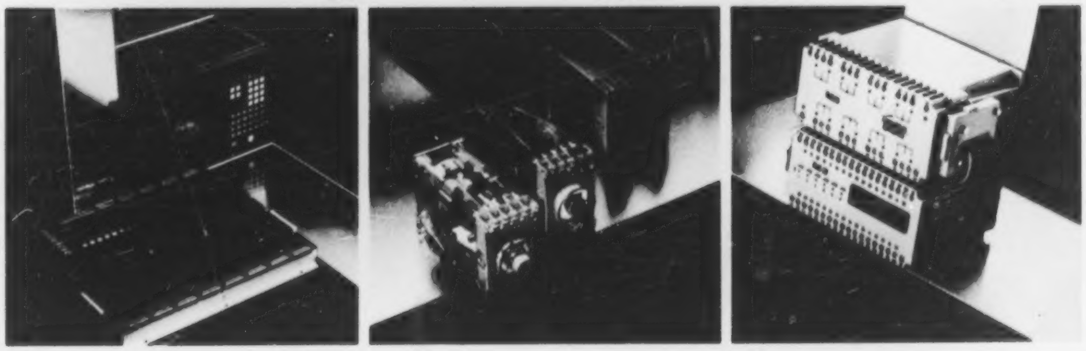

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Schenkers is conscious of its leadership position in the industry, and its obligations. Our tradition of innovation, if you will. The company pioneered many of the services and features you've come to take for granted in a transportation company. For example, it was Schenkers that pioneered the concept of money-saving freight consolidation. Schenkers was also one of the first companies to embrace freight containerization with all its labor and cost advantages.

When you select an international freight forwarder, big is definitely better. With a larger firm, you get choice, not chance. Schenkers maintains over 400 offices, spanning 5 continents and over 100 countries. There's also the choice of 100 dedicated air freight centers, and a matching 100 maritime offices in key seaports around the globe. On land, sea, or in the air, Schenkers delivers.

It's 10 AM. Do you know where your shipments are?? Schenkers has made the commitment to assemble, build and operate what is probably the state-of-the-art communications/computer system for a transportation company. All this—tradition, people, facilities, and our vast computer/communications network—is ready and waiting to assist you. One stop, full service. With offices in major cities across the USA, chances are, we're neighbors. Why not give us a call??

SCHLEICHER

When you come from the city of Berlin to Spandau you will recognize from a distance already the blue hexagon on the striking yellow building: symbol of a successful traditional enterprise. Founded in 1937 by Senior Engineer Otto SCHLEICHER and—after destruction and dismantling—newly established and developed to a modern industrial enterprise by his son, Senior Engineer Helmut Schleicher, the Schleicher relay works stand today for manufacturers of excellent precision time delay relays and program control equipment, in Germany and in the world. From the very beginning it was the capability to participate in the technological relay progress by pioneer work which secured the success of the Schleicher relay works. The secret of the success of Schleicher relays is functionality. The convenient time adjustment and range selection, the at-a-glance function display, stylish standardized housings, universal surface and recessed mounting facilities are as convincing for the relay user as the clear plastic cover which reveals the high-precision "interior" of every Schleicher time delay relay.

There is another field in which Schleicher's lead in relay engineering is obvious—the use of modern plastics. Whereas a time delay relay previously consisted of over 260 components, relays have now been reduced to a mere 80 or so precision parts that are simply fitted together.

The technical development activities of the Schleicher works are mainly concentrated on the quality improvement and quality assurance of the mechanical and electronic time delay relays as well as on the necessary expansion in the field of electronic control systems.

From the most simple programmable control system of the compact type to the multiprocessor system for bit and word processing this product range occupies today a large space in the comprehensive Schleicher program.

This technology is manufactured in the Berlin works as well as in the affiliated Munich subsidiary, Schleicher Electronic GmbH & Co. KG, concentrating especially on customer-specific controls.

The Schleicher company offers service in all parts of the world for the relay as well as for the control systems program by competent consultant offices and representatives.

SCHOTT SCHOTT™
GLASS TECHNOLOGIES INC.

Commencing operations in 1969, SCHOTT GLASS TECHNOLOGIES INC., Duryea, Pennsylvania has grown to be the United States' foremost manufacturer of scientific optical glass. With the exception of its parent, Schott Glaswerke, the firm offers the world's most comprehensive variety of optical glasses.

Since the founding in 1884 of the original Glastechnisches Laboratorium Schott und Gen., the Schott name has been synonymous with quality and innovation in glass. Schott Glass Technologies Inc. not only follows in this tradition, but has developed many new glass types for special applications within the Western Hemisphere. This is exemplified by the recent completion of Schott's latest expansion —one of the most modern glass research and development laboratories. Schott is now conducting research for Western Hemisphere customers right here in the United States on a much broader basis.

Schott Glass Technologies Inc. manufactures precision glass products for a multitude of scientific applications. The industries can be broadly described as ophthalmic, scientific optical, as well as numerous highly specialized markets.

Among the ophthalmic products manufactured by the firm are spectacle lens blanks made of traditional white and colored glasses, as well as photochromics, safety, and special purpose glasses. The firm was awarded the Industrial Research IR-100 Award for developing High-Lite®, a special glass which allows high prescription spectacle lenses to be made with greatly reduced thickness. Schott has recently expanded its ophthalmic line with the introduction of SunMagic®, a photochromic sunglass lens which is featured in many of the world's most fashionable sunglasses.

The mainstays of the precision optical product line include over 400 types of glasses to satisfy the needs of optical instrument makers in the Western Hemisphere. Augmenting these glasses are specialty products, such as highly sophisticated laser glasses, radiation shielding glass, scientific color filter glass, glasses for fiber optics applications, and glasses for CRT's and other displays. Many new developments are for specialty applications in the military and industrial fields.

Schott officers are: Franz E. Herkt, President; Henning Fuhrmann, Vice President of Operations; and John G. Gulbin, Vice President of Finance.

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BDO is an international accounting firm which offers accounting, auditing, taxation, financial and management advisory services to German companies and individual investors with business interests in the United States.

BDO is a leading firm worldwide, with more than 280 offices in 46 countries, and some 10,000 partners and staff. The firm is a partnership of prestigious national accounting firms in each country. In the United States, our German clients are served by SEIDMAN & SEIDMAN/BDO, a 75-year-old firm with offices in 40 U.S. cities. Our German partner firm, Deutsche Warentreuhand-und Kontinentale Treuhand-Aktiengesellschaft, (DWT/KT) is among the largest firms in Germany, with offices in Hamburg, Berlin, Dusseldorf, Frankfurt/M., Hannover, Kiel, Lübeck, Munich, Stuttgart, and Wiesbaden.

At Seidman & Seidman/BDO, work for German clients is under the direction of a resident Wirtschaftsprüfer and Steuerberater who is also a licensed CPA. We are presently serving a substantial number of U.S. subsidiaries of German parent companies. Our bilingual professionals are fully informed about complex and changing American accounting and tax regulations, and thoroughly familiar with German auditing, accounting and reporting requirements. They have expertise in all major industrial and financial fields.

Along with expertise on the technical aspects of finance and taxation, we understand the environmental, economic, marketing, and cultural differences between the U.S. and Germany. This knowledge enables us to assist our German clients with mergers, acquisitions and start-ups in the U.S.

Our partners are highly regarded in the business community. They can provide the invaluable link to business, financial, and legal contacts in the U.S. They have successfully helped many multinational corporations establish new enterprises in the U.S. and provide start-up, international tax structuring, advice and compliance with new consolidation requirements in Germany and Europe. Close working relationships between our U.S. and German partners guarantees prompt, attentive personalized service on both sides of the Atlantic.

BDO was founded as a European partnership and is the oldest European-based international accounting firm. The partnership was organized, and has grown, in response to the harmonization of trade regulations directed by the EEC. The key to our service is the quality of our professionals, who combine international scope and experience with a thorough knowledge of local accounting and business.

For more information about how BDO can assist your business in the U.S., contact partners: Wilfried Kischkat, WP/StB, CPA *or* Paul Neubelt, CPA.

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SIEMENS

SIEMENS USA has reached a level of maturity that allows an optimistic view of continued growth.

After three years as a decentralized organization, impressive growth for the Siemens companies in the United States has been maintained in virtually every phase of their efforts in the medical, power engineering, communications and electronic components industries. For the current fiscal year, 1984-85, it is anticipated that the combined sales volume will reflect the continuing expansion of Siemens in the U.S.

The preceding year (fiscal year 1983-84 which ended on September 30, 1984,)

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Siemens U.S. companies reached combined sales of $1.6 billion and incoming orders of $1.9 billion.

The largest entities among the Siemens companies in the United States are Siemens-Allis, Inc., Atlanta, Ga., and Siemens Medical Systems, Inc., Iselin, New Jersey. Both are diversified within their spheres of specialization with the product spectrum of Siemens-Allis ranging from large turbine generators and light rail vehicles for mass transit, through motor controls, switchgear and energy efficient motors of various sizes. Siemens Medical Systems, one of the major medical companies in the U.S., manufactures a range of products covering diagnostics, patient monitoring, operating room systems, dentistry, and hearing aids.

In recent years, Siemens Communication Systems, Inc. has strengthened its position as an important developer and manufacturer of central office and packet switching systems, private branch exchanges (PBX's) used in offices and other commercial establishments for handling digitized voice and data communications and transmission equipment for telephone networks. Quite recently, Siemens Communication Systems, Inc. reorganized into two individual companies: Siemens Information Systems, Inc., concentrating on office automation and computer peripherals, and Siemens Communication Systems dedicated to public voice and data communications networks for the regulated telecommunications market.

In the electronic components area, Siemens Components, Inc., Iselin, N.J., markets high technology transistors, microprocessors, opto-electronic products, lasers, ferrites, etc.

Serving these companies in such areas as finance, legal, research, advertising and public relations are Siemens Research and Support, Inc., Iselin, N.J.; and Siemens Capital Corporation, New York City.

In addition to these companies, Siemens is also represented in the United States by OSRAM, Inc., Newburgh, N.Y., in the field of commercial and industrial lighting, by Hell Graphic Systems, Inc., Hauppauge, N.Y., in the field of graphics and by two joint venture companies, General Numeric Corporation, Elk Grove Village, Ill., in the field of numerical controls for machine tools and Siecor Corporation, Hickory, N.C., a manufacturer and marketer of communications cable and fiber optics communications products. Most recently, Siemens-Allis Automation, Inc., was established in Peabody, Mass. to market a growing line of factory automation systems.

Siemens employs approximately 15,000 people in the United States in some 200 locations.

sto®

STO INDUSTRIES, INCORPORATED, headquartered in Rutland, Vermont, is the American subsidiary of STOTMEISTER GmbH in Stühlingen-Weizen, West Germany, one of the world's largest manufacturers of protective and decorative synthetic resin wall coatings. STO products are recognized worldwide for their versatility, durability, thermal properties, cost savings and attractive appearance.

Historically, operations commenced in 1936 when Wilhelm Stotmeister secured a one hundred year old lime and cement business. Stotmeister & Company was to become a leading manufacturer not of lime, but of a new type of plaster which could successfully be applied to all types of substrates in both interior and exterior applications. In 1955, Stotmeister founded the Ispo Putz Company —the first manufacturer to produce and market the new synthetic-resin coating product under the name of ISPO Plaster.

Within a ten year span and after intensive research, development and refinement, the first STO Full Thermal Insulation System was installed on a high rise. The rapid dissemination of STO products which followed was coupled with the expansion of existing facilities and by the creation of new manufacturing plants, sales offices and distribution centers throughout Europe. Stotmeister GmbH now operates the largest and most technologically advanced automated production facility in the industry.

Today, the product line for the STO network of companies includes:

- exterior full thermal insulation systems
- interior and exterior plasters and paints
- protective wall coating materials
- concrete restoration systems
- acoustical insulation systems

STO Industries, Incorporated, established in 1979 as STO Energy Conservation, Inc., is a direct result of the US expansion of Stotmeister GmbH. The construction of a major production facility in Rutland, Vermont in 1980 also marked twenty-five years of STO synthetic resin development and production. In a relatively short period of time, STO Industries has firmly established itself in the U.S. through the successful marketing of STO Full Thermal Insulation Systems and STO Synthetic Resin Wall Coatings.

High quality STO materials and technological expertise have been selected time and again for a multitude of major building projects. Those representing such clients as BMW, Porsche, The Olympic City in Munich, AT & T, IBM, and the U.S. Army Corps of Engineers, stands as testimony to STO's worldwide reputation of excellence. STO coating products were the ideal choice for the authentic restoration of New York City Hall. With the only exterior insulation system approved for installation in New York City, STO Industries successfully met New York's requirements and fire codes for non-combustible materials—the strictest in the world.

STO Industries has already doubled in size and production capacity—a reflection of the growing market opportunities for STO materials in the United States. A southern regional distribution center was established in 1981 and over twenty-five distributorships are in operation covering more than twenty-five states.

Corporate headquarters, central production and research and development facilities for Stotmeister GmbH remain in Stühlingen-Weizen with numerous manufacturing facilities and sales offices in Switzerland and Germany, distribution companies in Austria and France, and joint ventures in England and Scandinavia.

THYSSEN

THYSSEN INC., a wholly owned subsidiary and member of the West German Thyssen Group, is a major U.S. and international trading concern, which has its headquarters in New York City.

The steel products of the Thyssen mills as well as industrial products of various Thyssen enterprises have been sold in the U.S. for many years. As the demands for these products increased, it became necessary for the Thyssen Group to establish a company to facilitate communications, order entries and achieve more complete penetration between Thyssen and its customers.

Thyssen Inc. was founded in mid-1959. Since its formation, Thyssen Inc. has continually expanded its U.S. and international operations by adding various new lines of activities to the original business of importing steel. As a result, Thyssen Inc.'s organizational set-up was restructured in the beginning of 1981 with the formation of three major divisions, Thyssen Steel Co., Thyssen Carbometal Co. and Thyssen Rheinstahl Technik Co. Thyssen Mining Equipment continues to sell and distribute mining equipment, operating as a divi-

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sion of Thyssen Inc.

Thyssen Steel Co. expanded its direct domestic sales representation with offices in Houston and Los Angeles and with the formation of divisions and/or subsidiaries to handle and establish various additional lines of business.

In the 1970's, Thyssen Steel Co. entered the domestic market of steel warehousing with the establishment of Thyssen Metal Service/Southwest and later on with Thyssen Metal Service/Southeast, Thyssen Metal Service/West Coast and Thyssen Steel Detroit Co. These service centers and distributors supply the Southwest, Southeast, Northeast, the Midwest and Great Lakes areas and the West Coast respectively with rolled steel products.

At the same time, Thyssen Carbometal Co. established a worldwide business in raw materials, mainly coal and iron ore, steel scrap and secondaries.

Today the combined operations of Thyssen Inc. employs almost 250 people in various parts of the country. The company's activities include international raw material trading, warehousing and steel service center operations in the U.S., as well as sales of industrial products and mining equipment.

With such dynamic growth, Thyssen Inc. has become a major factor in the domestic steel community and in international trading.

TRANSATLAS AIR-DIVISION, at 7000 Stuttgart 23 Airport, is the initiator and coordinator of the vital, still growing INTERNATIONAL TRANSATLAS-GROUP, a club of 140 related GROUP-MEMBER-COMPANIES, cooperating bilateral and multi-lateral worldwide.

TRANSATLAS AIR-DIVISION, with its own offices at 6092 Kelsterbach, Im Taubengrund 13, postal address: 6000 Frankfurt 75 Airport, P.O. Box, is managed by Mr. Rudolf Eulner, district manager.

In New York JFK, at 167-21 Rockaway Boulevard, Jamaica, N.Y. 11434, and under the name of AERO SPACE CARGO, INC., a Division of TRANSATLAS Stuttgart, President: Mrs. Naomi Meyer, Vice-President: Mr. Bill Meyer, as in Frankfurt and Stuttgart, we are IATA-licensed cargo-agents, independent air-consolidators and international airfreight-forwarders.

Our great range of services includes scheduled worldwide air-consolidations at strongly reduced, lower than airline-rates, own containerization by our specialized staff, resulting in less theft and pilferage, because our completely locked and sealed units are immediately upon arrival transferred by bedroller-trucks in New York for instance, into our bonded warehouse for clearance and distribution.

At each German airport besides Frankfurt and Stuttgart, we are represented by a member company of the INTERNATIONAL TRANSATLAS-GROUP. For names, location, telephone and telex numbers, see in our ad, close to this company profile.

All German TRANSATLAS group-members are also acting as co-loader in our scheduled worldwide consolidations, consigned to group-member companies at the port of destination. Most of them operate bonded warehouses, as our company AERO SPACE CARGO, INC., New York/JFK, with customs inspector available also after office hours, or on holidays, in case of top emergency.

Many member-companies operate a fleet of their own trucks for pick up and delivery. For instance our group-member for Japan, SEINO COSMO EXPRESS COMPANY, is the exclusive TRANSATLAS group-member for Japan, operating over 6,000 trucks, employing more than 10,000 employees, with offices at each Japanese airport and all over

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the country, as no other Japanese forwarder offers.

We, for instance, offer to 140 destination airports the possibility of free domicile delivery at competitive terms, delivered and reported by telex to whom and when, similar as courier-services offer. To most of the hard currency countries, where most airlines refuse to accept COD shipments, we accept COD delivery within the INTERNATIONAL TRANSATLAS-GROUP-MEMBER-ORGANISATION in most cases. Please check with us.

The goal of the group is the cooperation between all group-members, to start new consolidated services with other group-members and to bring in existing consolidations and the development of such, with the receiving group-member, wherever on the globe.

The annual IATA sales of TRANSATLAS Germany, according to the IATA statistics, show an increase of 70% in IATA turnover the last 4 years, which reflects the activity and the acceptance of our worldwide service-system by our international customers in airfreight import and export affairs. With pleasure we announce, that we are also recommended by our friends and business partners worldwide.

The names TRANSATLAS AIR-DIVISION and THE INTERNATIONAL TRANSATLAS-GROUP are guarantee for first quality in international air-transport, due to expert handling from door to door.

We and the group live up to our slogan: "The confidence of those we serve, is the foundation of our progress." Please try us—you will like our services. It is our pleasure to be of service to you! If satisfied, please recommend us to your friends, as many of our customers do!

UNION AIR TRANSPORT GmbH, their headquarters being located in Baldwin, New York, opened its first USA offices in 1959. The company now has 11 operational offices in the United States, and is an affiliate of one of the largest West German forwarders, UNION-TRANSPORT GmbH, in Duesseldorf.

All phases of forwarding services, including export/import, NVOCC and expediting operations are handled by Union Air Transport's 2,500 highly qualified employees. Spear-headed by Mr. Hans J. Haefner, Vice President and General Manager for North and South America, the vast network is continuing its expansion in the Americas.

All branches have their own warehouse operation, and their experienced staff and modern equipment offer all shippers an excellent customer service.

Union Air Transport's offices are equipped with the latest operational software ensuring that customers receive the best service available. From a shipment tracing system to an on line information retrieval system to an electronic document transmittal system, Union Air Transport maintains a state of the art computer center, the sole function of which is keeping current with available software, while custom tailoring customer's specific needs whenever and wherever possible. Furthermore, we are compatible with most hardware, enabling customers to tie into our systems.

Union Air Transport's air and ocean departments extend their continuous effort of serving their clientele better than ever before. Their activities, facilities and services are updated and expanded constantly. One of the goals for 1985/86 season is the establishment of their NVOCC service, starting with European destinations from major U.S. seaport offices. This particular operation should contribute to another successful year in the company's long history.

VAW
aluminum

V.A.W. OF AMERICA, INC. has been operating in Ellenville, New York since October 1965. The company, wholly owned by Vereingte Aluminum-Werke AG-Bonn, is a major producer of aluminum billet and semi-fabricated products. The V.A.W. Ellenville plant consists of an aluminum casting operation for the production of over 100 million pounds of billets in various sizes and different alloys. This constituted the basis for construction of the firm's extrusion presses and its tube drawing and rigid conduit production facilities.

Since 1979, V.A.W. has been operating a second plant in the United States, located in St. Augustine, Florida. This plant produces the same range of extruded and drawn aluminum products and is equipped with the most advanced electro-static paint line, enabling V.A.W. to supply coated aluminum extrusions and tubing.

In the area of aluminum extrusions, V.A.W. operates seven large presses covering the entire range of shapes from small, lightweight profiles for the building market, to heavy and complex configurations in various aluminum alloys for the construction, transportation and electrical industries. A major specialty in extrusions has been the development of close tolerance tubing and pipe, used for example in lighting standards and sailboat masts. Through years of technical development, V.A.W. expertise in these areas has led to major breakthroughs for the fabricating industry.

Another major product line is drawn aluminum tubing. The availability of advanced equipment (such as cable hydraulic draw benches), combined with technical leadership in the area of tube drawing, has enabled V.A.W. to become a major supplier of tube for consumer durable products and, in particular, outdoor lawn and garden furnishings and other specialty markets.

Over the years, V.A.W. of America has achieved a position as a leading supplier of rigid aluminum conduits for the electrical industry, and distributes aluminum conduits through a network of warehouses throughout the United States.

The V.A.W. operations are backed by a complete R & D and testing laboratory. The laboratory utilizes diverse testing equipment, including ultra-modern electro-spectrographic analyzing machinery.

V.A.W. plans to apply its knowledge and expertise through the years to ensure its continued position as a major supplier of extrusions and tubing to the growing aluminum market in the United States.

VEREINS-UND WESTBANK today is one of the leading regional banks in Germany with its Head Office in Hamburg and a network of more than 260 branches in the States of Hamburg, Schleswig Holstein and Lower Saxony. The bank was formed by the merger of Westbank, whose branch network gave it a strong diversified funding base, and Vereinsbank, whose strength was based upon regional corporate business and international banking with emphasis on international trade financing, foreign exchange and securities business.

As a "universal bank," Vereins-und Westbank offers a full range of commercial and investment banking services to domestic and international corporations, private individuals, governmental institutions and correspondent banks. In addition to providing all types of credit facilities, foreign exchange services and accepting deposits, it is also actively engaged in underwriting and trading securities of both domestic and foreign issuers, as well as providing assistance to clients seeking to raise equity or bond financing in the German market. The bank also specializes in portfolio management services, including investments in shares, bonds, deposits and precious metals. In addition, the bank holds equity participations in industrial corporations as well as in banks.

The international activities have formed a substantial part of the bank's business ever since its founding in 1856. Through its own offices abroad and its correspondents in over a hundred countries, the Vereins-und Westbank Group provides the full range of international banking services. Through its wholly-owned subsidiary, Vereins-und Westbank Internationale S.A. in Luxembourg, the bank is engaged in Euromarket lending activities, securities, foreign exchange and trading of precious metals.

Vereins-und Westbank's New York Office, established in 1980, acts as a representative office and business development center, specializing in trade finance, commercial banking and merchant banking. It provides its customers with in-depth consultation, flexibility and expeditious response to their finance requirements.

In 1983, Vereins-und Westbank expanded its presence in the United States by opening a State Agency in Miami. Initially, the Agency concentrated its activities on handling and financing of exports from selected Latin American countries. It has since expanded the scope of its operations by servicing German and U.S. customers. Today, the Agency provides a comprehensive range of banking services, including all aspects of portfolio management for private individuals.

VILLEROY & BOCH

VILLEROY & BOCH TABLEWARE, LTD., originally founded as Ceramar Incorporated in 1969, was converted into a wholly owned Villeroy & Boch subsidiary in 1976 under the direction of Carlo H. Piccoli. Villeroy & Boch Tableware is charged with the marketing of the company's dinnerware, giftware and collectibles, and a growing fine crystal capability most recently augmented by the parent company's acquisition of Josephinehutte glassworks.

Villeroy & Boch products can be seen in showrooms in Atlanta, Boston, Chicago, Dallas, Los Angeles, Seattle, and the organization's 41 Madison Avenue location in New York.

Since its entry into the American marketplace, Villeroy & Boch has registered a remarkable and steady sales growth. The hallmark of its products is the creation of designs and patterns which transcend style trends or fashion fads, and which are expanded upon with the addition of serving pieces, cookware, bakeware, and accessories. Additionally, the company has established a Hotel and Restaurant Division to help it gain a greater share of that lucrative market. Villeroy & Boch, in fact, sets the tables of some very prestigious institutions, including several Sheraton hotels across the country, La Cote Basque restaurant in New York, Spago in Los Angeles, and Le Francais near Chicago.

Another market where Villeroy & Boch has established inroads is collectibles. The company's Limited and Art Products Division has developed collector plate and stein series which have become treasured art and important investments for collectors. This division is in the process of expanding, adding to its designs with limited edition art products including reproductions from the world-famous Mettlauch Museum, where ceramics from Villeroy & Boch's 236-year history are on display.

Finally, Villeroy & Boch has intensified its marketing efforts in the U.S. and undertaken a more aggressive communications program which encompasses both advertising and public relations. It has made great strides in a short amount of time and continues to increase its prominence within the market.

VOLKSWAGEN OF AMERICA, INC. was formed in October 1955 as a wholly-owned subsidiary of Volkswagenwerk AG, Wolfsburg, West Germany. Originally established as the official importer of Volkswagens to the United States, VWoA has also served as the official importer of Audi models since 1969.

VWoA corporate headquarters is located in Troy, Michigan. Marketing of cars imported and manufactured by VWoA is through distributing companies which serve two separate dealer networks—one authorized to sell and service VWs and the other handling Audi vehicles.

Manufacturing divisions within VWoA include an assembly plant in Westmoreland, Pennsylvania, a sheet metal stamping plant in South Charleston, West Virginia and an air conditioning and automotive component plant in Fort Worth, Texas.

Volkswagen of America also established separate financial subsidiary companies in 1981 to provide automotive financing support for its VW and Audi dealers. The subsidiaries are VW Financial Corporation, which provides required financial funding, and VW-Credit Inc., which, in agreement with Chrysler Financial Corporation, implements a program of dealer wholesale financing as well as customer retail lease financing.

Under the direction of Noel Phillips, President and Chief Executive Officer, VWoA is also responsible for developing national sales programs, preparing and distributing technical and sales literature, developing and supervising training programs for service mechanics, maintaining inventory control over replacement parts, producing and placing national advertisement, administering insurance programs and conducting many other activities to ensure the continued success of Volkswagen and Audi in the U.S. market.

WACKER

Founded in 1914 by Dr. Alexander Wacker, WACKER-CHEMIE GmbH, Munich, with 1984 sales of over DM 2.783 billion, ranks today among the 100 largest industrial companies in the Federal Republic of Germany.

Operations began with the first synthetic production of acetaldehyde, acetic acid and acetone on an industrial scale. Pursuing its production and market opportunities, the company expanded its business during the past decades with the addition of plants and subsidiaries in Germany and abroad. Partners throughout the world were licensed. We invented polyvinyl-alcohol, the polymerisation of polyvinyl chloride in suspension, and the production of acetaldehyde through direct oxidation of ethylene.

Today Wacker-Chemie is one of the leading enterprises in the German chemical industry. The commodity plastics and polyvinyl chloride produced in large plants in the Burghausen and Cologne works in Germany, form the basis for its large scale operations. With the development of special grades, the company succeeded in securing sales at a high volume that is the prerequisite for efficient production.

Polyvinyl acetate, used for many different applications, is one of the important product groups. Copolymers and terpolymers containing ethylene are pioneering new applications in this sector.

Chlorinated solvents are part of the traditional business of Wacker-Chemie. They are used in many variations for surface treatment.

In 1948, Wacker-Chemie began to produce silicone and silanes. They are offered today in a wide variety of types and represent one of the principal pillars of the sales program. It is supplemented by highly dispersed silicic acid and by silicon carbide.

Our subsidiary Wacker-Chemitronic Gesellschaft fuer elektronik-Grundstoffe GmbH is one of the world's leading producers of pure silicon. In the product's largest market, the United States, it is produced in the Portland, Oregon plant of Wacker Siltronic Corporation.

Wacker-Chemie is now embarking on the manufacture of optical fibers for the communications industry.

Wacker-Chemie pays particular attention to the development of new product applications in keeping with the needs and wishes of the processing industries.

Ward Howell International

The executive search industry is, more and more, becoming a professional service recognized and utilized by commerce and industry in the same manner as other consultants such as audit, legal or investment banking.

There are probably well over 2000 search consultants in North America with annual industry sales of $300 million or more. WARD HOWELL INTERNATIONAL, with some 60 partners and 200 employees, ranks among the top five firms in size, both in fee income and number of offices and partners. There are now 17 offices in the US, Europe, Latin America and the Pacific Region serving more than 600 clients annually.

During 1985, the company expects to serve a large number of overseas clients in the USA, as both Japanese and European companies continue to expand their US subsidiaries despite the strength of the US dollar. 1984 was a record year in the search field and we expect to increase our revenue in 1985.

WestLB

WESTDEUTSCHE LANDESBANK GIROZENTRALE (WestLB) was established in 1969 by the merger of Rheinische Girozentrale und Provinzialbank, Düsseldorf (est. 1854) and Landesbank für Westfalen Girozentrale, Münster (est. 1832). WestLB is a credit institution in the legal form of an institution under public law. The Bank's owners (the State of North Rhine-Westphalia and the Sparkassen (Savings Bank Organisations and Regional Associations of the Rhineland and Westphalia-Lippe) are jointly and severally liable for WestLB's obligations.

With a group business volume of more than DM 184 billion, WestLB is the third largest bank in the Federal Republic of Germany and one of the largest universal banks in the world. WestLB offers its private, commercial and public sector clients in Germany and abroad a full range of services in the credit and investment business. With an outstanding volume of WestLB-bonds amounting to over DM 60 billion, the Bank is Germany's most significant constant issuer of bank bonds.

WestLB maintains branches and subsidiaries in those financial centres best suited to servicing the needs of its clients as well as representative offices in the most important trading regions. In addition to export and import financings, the Bank offers its internationally active clients international bond and loan financings in D-mark and Eurocurrencies. Its international network enables WestLB to meet clients' needs for cover in all important currencies and to handle their international payment transactions.

WestLB is both clearing and partner bank to the 160 Sparkassen in NRW. As part of its cooperative working relationship with the Sparkassen, the Bank also handles the foreign business of their clients. In addition, WestLB acts as banker to the State of North Rhine-Westphalia and handles trustee business for the Federal Republic of Germany and NRW amounting to over DM 40 billion. The Bank supports NRW in promoting economic development and residential housing construction.

WestLB New York branch offers a broad spectrum of flexible banking services tailored to the needs of the multi-national firms already doing business in the U.S. WestLB's capability to package its financing to suit U.S. market requirements ensures its clients of direct access and immediate fulfillment of demand for both financing and investment services.

The Bank's presence abroad and its participation in internationally operating institutions make WestLB a strong partner for all engaged in international business.

OTTO WOLFF OW

OTTO WOLFF, headed by the Cologne-based OTTO WOLFF AG, is an international enterprise. The Group operates in a wide field of trade and production, with steel processing and machine and industrial plant installations representing the company's strongest sectors.

One prime center of activity is the production and distribution of tinplate, cold rolled sheet and electrical sheet. Incorporating all the latest functional technology, these materials meet the diverse demands of the packaging, automotive and electrical industries.

Rolling mill products such as profile steel, reinforcing bars and other construction elements, wire mesh, screws, and plastic goods as well, round out the program and show the emphasis laid on supplies in the fields of infrastructure.

Another significant part of the Group's activities involves the construction of highly specialized and complex technical apparatus. Whether in precision machinery, machine tools or measuring instruments, drilling rigs, earth-movers or material handling systems, heavy machines or complex industrial equipment, Otto Wolff's predominance in achievement and technology is beyond question.

With a constant eye on the market, ready to adapt Group structure to change, with first rate service and distribution performance and with strong financial power, Otto Wolff is a reliable and trustworthy partner.

International marketing, based on a range of Group owned overseas subsidiaries and agencies, guarantees rapid adaptation to current market trends.

The United States market has been acquiring growing importance in Otto Wolff's international operations as the continuous expansion of the US-network shows. Today the Group is represented by the Otto Wolff U.S. Holding Corp., Houston, Texas with regional offices in San Francisco and Chicago, as well as the Otto Wolff America Inc., Chicago. U.S. Wirth Corp., Houston, PBH Weserhutte Inc., St. Louis and Robbins Engineers and Constructors, Totowa, N.J. subsidiaries to Otto Wolff associates in Germany, cover special technical markets in boring and material handling.

ARTHUR YOUNG

ARTHUR YOUNG is an international accounting firm which specializes in providing assistance and counsel to those already in the United States or to businesses who may wish to consider an investment there. We have studied formally and extensively the experience of investors in the U.S. as evidenced by our surveys with the Dutch, Swiss, and The Netherlands Chambers of Commerce, copies of which are available by writing Herb Morey, Arthur Young, 277 Park Avenue, New York, NY 10172.

Arthur Young has 87 offices in the U.S., six offices in Germany and over 350 worldwide. We provide international accounting, auditing, tax, management consulting and other advisory services to help you maximize the likelihood of a successful U.S. venture.

We believe it may be critical to have the assistance of a firm of knowledgeable U.S. financial consultants with special competence in the industries in which you are interested. Arthur Young has the resources and the prestige in the U.S. and worldwide to provide this assistance.

Working closely with you, Arthur Young's professionals can be very helpful in such areas as: pre-investment planning, relations with banks and other sources of capital, tax planning and international tax advice, merger reviews, accounting records and systems, independent audits and special reviews, management information reports, and a wide range of business consulting services.

Arthur Young's network of more than 85 offices in the United States can be an especially valuable asset to the foreign investor concerning local business conditions, opportunities, government regulations, and relations with businessmen, bankers, government representatives, and other professional advisors.

You can contact Arthur Young locally, or call the National Director of International Investor Services in New York. The firm has an excellent guide, "Doing Business in the U.S.A.," which can also be obtained by writing Mr. Morey at the address given above.

ZEISS

CARL ZEISS, Inc. is a part of the worldwide Carl Zeiss organization headquartered in West Germany. Since its establishment as the U.S. subsidiary of its German parent 60 years ago, Carl Zeiss, Inc. has constantly expanded its presence in the American market as a sales, marketing, and service organization of precision products for industry and for the medical and scientific communities. Products which have set world standards for nearly one and one-half centuries. The Zeiss commitment to uncompromising excellence has consistently defined the state-of-the-art in such diverse areas as precision machines for industrial measuring, optical systems for industrial applications, surveying instruments, aerial cameras, light and electron microscopes, surgical microscopes, ophthalmic instruments, telescopes and planetaria—to name a select few.

Zeiss consumer products—riflescopes, binoculars, sporting glasses and high fashion eyeglass frames and sunglasses—are offered to the U.S. market through ophthalmic dispensers by another Zeiss subsidiary, ZEISS OPTICAL, INC. in Petersburg, VA.

Zeiss' unique capabilities in combining the mechanics, precision optics and advanced electronics have paved the way for significant industrial advances, most recently in the field of metrology, a science which dates back to man's first need for a formal method of linear measurement. The Industrial Measuring Technology Division of Carl Zeiss, Inc., markets high performance, computer-controlled coordinate measuring machines. Incorporating a unique probing system designed by Zeiss, measurements can now be made in the incredible range of millionths of an inch. These machines, used as a quality control tool for cost-effective measurement of precision production parts such as turbine blades or componens of an internal combustion engine, are rapidly replacing the time consuming task once required of measuring parts manually with traditional hand-held gauging instruments. Today, Zeiss provides an entire industrial measuring technology product line to serve the needs of diverse major industries, such as automotive, aeronautic, computer, defense and energy. Another Zeiss achievement which advances the state of technology.

CARRÉ, ORBAN & PARTNERS INTERNATIONAL

Executive Search, Management Appraisals, Corporate Mergers and Acquisitions

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Carré, Orban & Partner GmbH, Mörsenbroicher Weg 31, D-4000 Düsseldorf 30, Telephone (0211) 626651
Telex 8586726 cop-d, Managing Directors: Richard W. Montague and Walter F. Niendorff

Carré, Orban & Partners, Inc., 230 Park Avenue, Suite 1624, New York, N.Y. 10169, USA,
Telephone (212) 953-7722, Telex 148458 co&pnyk, Managing Director: Tener R. Eckelberry

GARRETT TECHNOLOGY IS GOING PLACES.

For over 40 years, The Garrett Corporation has applied its imagination in developing one of America's most valuable resources—technology.

Garrett's expertise in turbo-machinery, heat transfer, and electronic systems is now helping industry expand productivity, as well as carve out new opportunities around the globe.

The first practical truck gas turbine.

The engine which may revolutionize trucking, Garrett's new 550hp GT601 gas turbine engine is a good example of how we can make an advanced concept practical.

Using a special exhaust heat regenerator, the GT601 delivers fuel economy similar to existing diesel engines—with only 1/10th the emissions! Our GT601 can also operate on a variety of alternative fuels (alcohol, kerosene, LPG, shale oil, etc.).

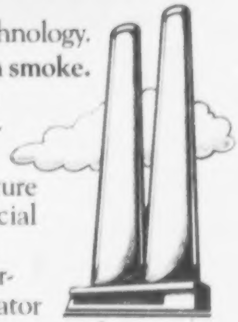
What's more, our GT601 is also a leading candidate to power improved versions of military tanks, armored personnel carriers, and other military vehicles.

The automotive engine of the future.

Today, Garrett and the American auto industry are hard at work in the Advanced Gas Turbine (AGT) program, funded by DOE/NASA contract.

Our goals? Almost 60 miles per gallon at highway cruise on diesel fuel, with the potential of up to 75 miles per gallon. Plus the ability to operate on either diesel, gasoline, alcohol or synthetic fuels.

How will we do it? With a low-emission, single-shaft regenerated gas turbine engine that makes extensive use of Garrett's ongoing developments in high-temperature ceramic technology.



Keeping energy from going up in smoke.

How can you reduce the fuel requirement of an industrial furnace by more than 25%?

By putting the high temperature flue gas back to work with a special type of heat exchanger called a recuperator. Fitted inside the furnace exhaust stack, the recuperator channels heat back to the furnace to preheat incoming air—and reduce fuel consumption.

The most efficient power for business jets.

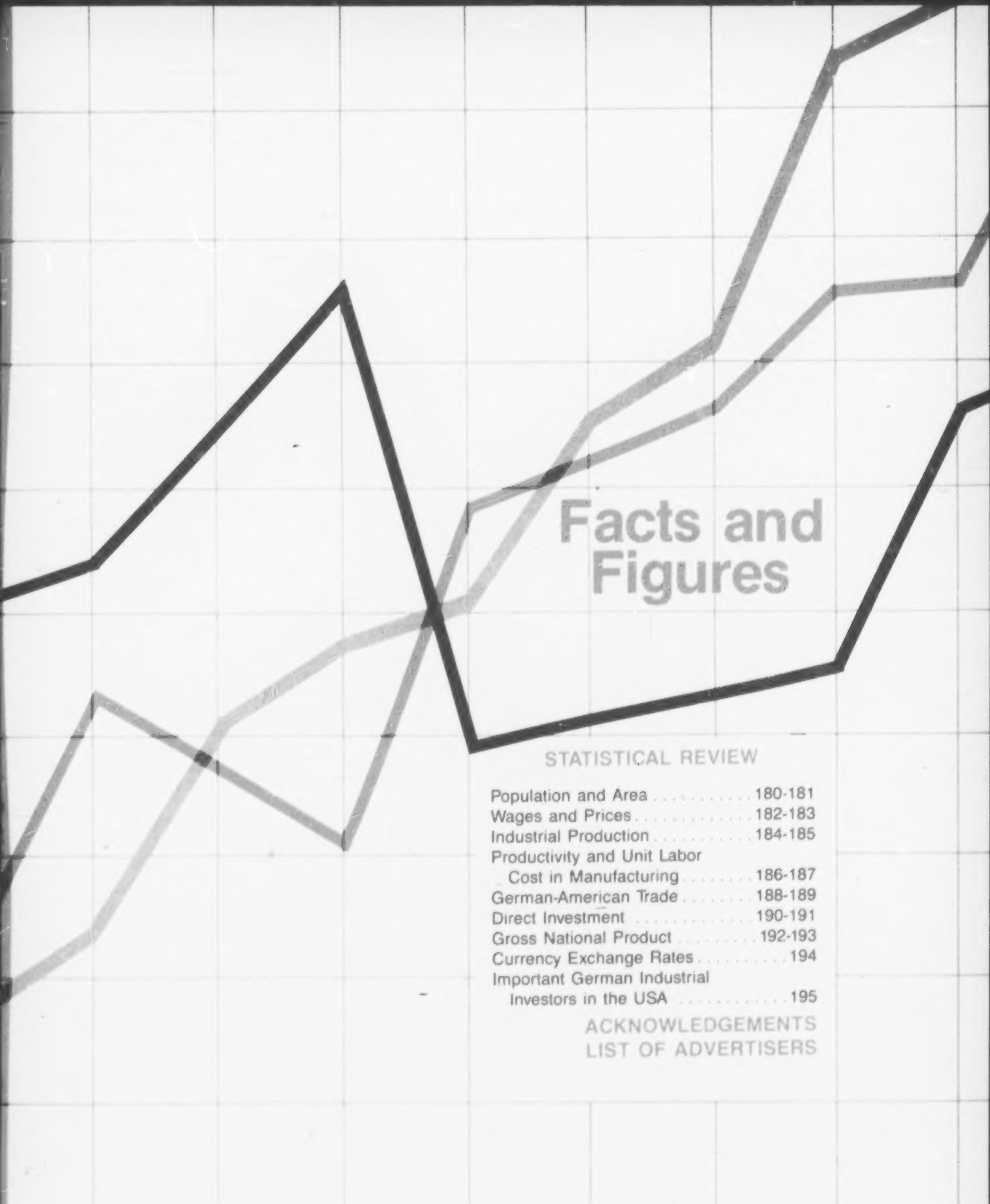
The power behind 14 of today's leading business jets, Garrett's low-noise, low-pollution TFE731 turbofan engines offer the most fuel efficiency in their class. Up to 40% less fuel consumption than comparable turbojets. With over 4 million flight hours already logged, the TFE731 has already been selected to power the military trainers of four countries.

The list goes on and on. Everywhere you look, you'll find Garrett doing much the same thing: Having the initiative to develop more imaginative technology. Then knowing where to use it.

For information, write: The Garrett Corporation,
9851 So. Sepulveda Blvd.,
Los Angeles, CA 90009.

GARRETT

GARRETT The Garrett Corporation
One of The Signal Companies



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Statistical Review

Prepared by
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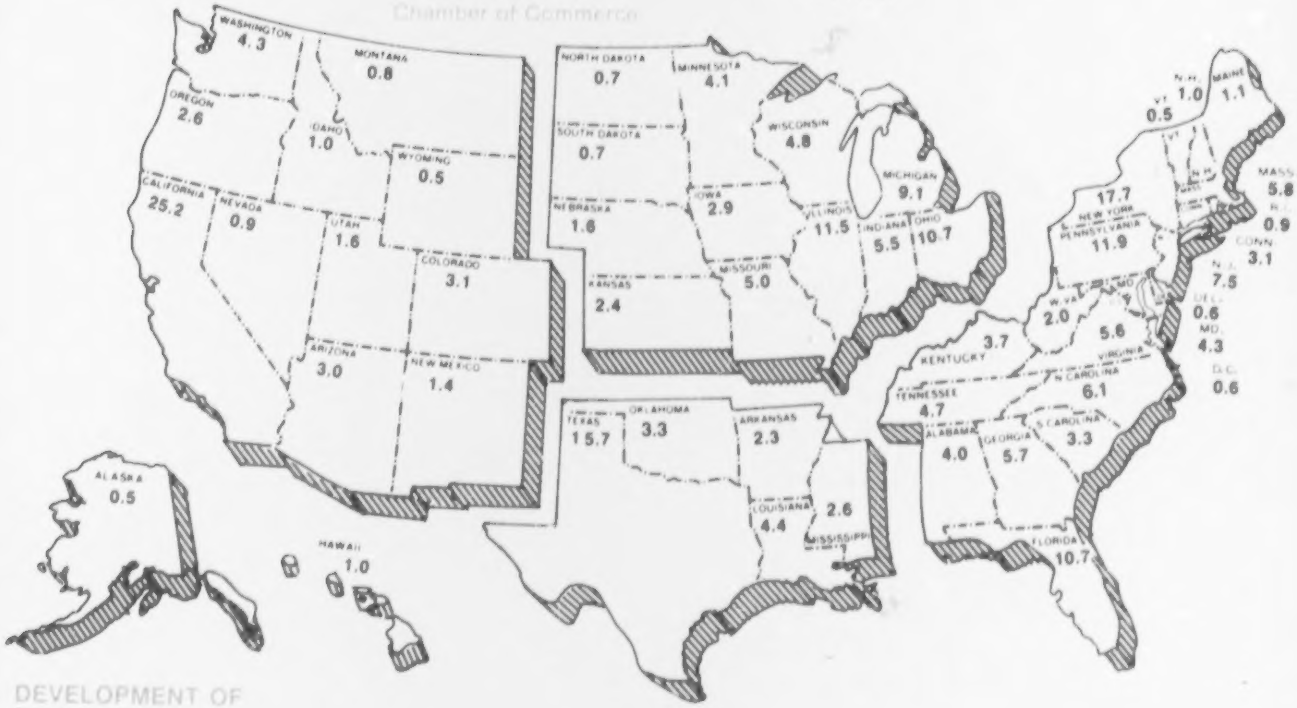
Chamber of Commerce

U.S.A.


WASHINGTON
4.3
MONTANA
0.8
OREGON
2.6
IDAHO
1.0
WYOMING
0.5
CALIFORNIA
25.2
NEVADA
0.9
UTAH
1.6
COLORADO
3.1
ARIZONA
3.0
NEW MEXICO
1.4
NORTH DAKOTA
0.7
MINNESOTA
4.1
SOUTH DAKOTA
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WISCONSIN
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MICHIGAN
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NEBRASKA
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IOWA
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ILLINOIS
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INDIANA
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OHIO
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KANSAS
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MISSOURI
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TEXAS
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OKLAHOMA
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ARKANSAS
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LOUISIANA
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MISSISSIPPI
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TENNESSEE
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ALABAMA
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GEORGIA
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S CAROLINA
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N CAROLINA
6.1
VIRGINIA
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W.VA
2.0
MD
NEW YORK
17.7
PENNSYLVANIA
11.9
VT
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N.H.
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MAINE
1.1
MASS
5.8
R.I.
0.9
CONN
3.1
N.J.
7.5
DEL
0.6
MD
4.3
D.C.
0.6
FLORIDA
10.7
ALASKA
0.5
HAWAII
1.0

DEVELOPMENT OF POPULATION

Population Break (in mil.)

	1960	1970	1975	1980	1981	1982	1983	1984
Area (in 1000 sq. miles)	3,618.7	3,618.7	3,618.7	3,618.7	3,618.7	3,618.7	3,618.7	3,618.7
Population (in mil.)	180.0	204.0	215.5	227.2*	229.5	231.8	234.0	236.1
– male	88.3	98.9	104.2	110.0	111.5	112.6	113.7	114.8
– female	90.9	104.3	109.3	116.5	117.9	119.1	120.3	121.3
Households (in mil.)	52.8	63.4	71.1	80.0	82.4	83.5	83.9	85.4

Source: U.S. Department of Commerce

*Based on new benchmark levels. Not comparable with previously published data

Labor Market (in 1000)

Period	**Civilian Labor Force**	**Employed**	**Unemployed**	**%**
1960	69,628	65,778	3,852	5.5
1970	82,715	78,627	4,088	4.9
1980	104,719	97,270	7,448	7.1
1981	108,670	100,397	8,273	7.6
1982	110,204	99,526	10,678	9.7
1983	111,551	100,834	10,717	9.6
1984	113,877	105,748	8,130	7.1
Sept. 1985	115,818	107,544	8,274	7.1

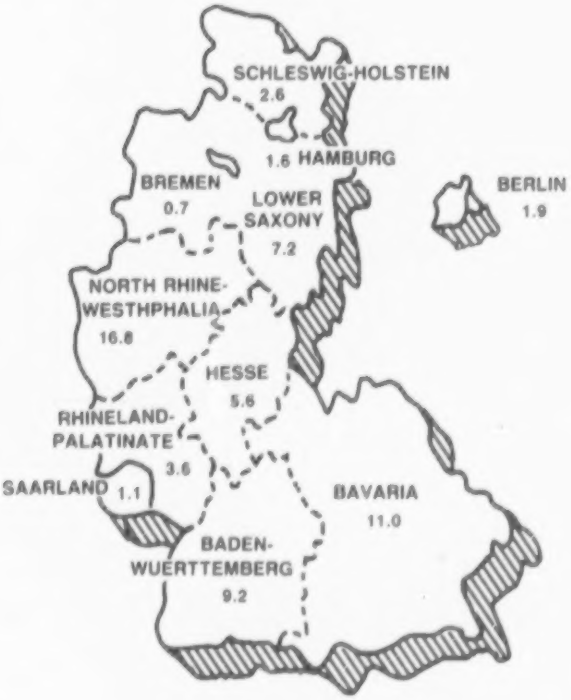
Source: U.S. Bureau of Labor Statistics, Employment and Earnings

Unemployment by Duration (in %)

	LESS THAN 5 WEEKS	**5-14 WEEKS**	**15-26 WEEKS**	**27 WEEKS AND OVER**
1980	43.1	32.3	13.8	10.7
1981	41.7	30.7	13.6	14.0
1982	36.4	31.0	16.0	16.6
1983	33.3	27.4	15.4	23.9
1984	39.2	28.7	12.9	19.1

Source: U.S. Council of Economic Advisers

GERMANY


SCHLESWIG-HOLSTEIN
2.6
1.6 HAMBURG
BERLIN
1.9
BREMEN
0.7
LOWER SAXONY
7.2
NORTH RHINE-WESTHPHALIA
16.8
HESSE
5.6
RHINELAND-PALATINATE
3.6
SAARLAND 1.1
BAVARIA
11.0
BADEN-WUERTTEMBERG
9.2

DEVELOPMENT OF POPULATION

Population Break (in mil.)

	1960	1970	1975	1980	1981	1982	1983	1984
Area (in 1000 sq. miles)	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0
Population (in mil.)	55.4	60.7	61.8	61.7	61.7	61.6	61.3	61.1
–male	26.0	28.9	29.4	29.5	29.6	29.5	29.3	29.2
–female	29.4	31.8	32.3	32.2	32.2	31.1	32.0	31.9
Households (in mil.)	19.3	22.0	23.7	24.8	25.1	25.3	25.3	25.3

Source: Statistisches Bundesamt, Germany

Labor Market (in 1000)

Period	Civilian Labor Force	Employed	Unemployed	%
1960	26,518	26,247	271	1.3
1970	26,817	26,668	149	0.7
1980	26,684	25,795	889	3.8
1981	26,927	25,655	1,272	5.5
1982	27,393	25,560	1,833	7.5
1983	27,589	25,331	2,258	9.1
1984	27,612	25,346	2,266	9.1
1. Halbjahr 1985	27,733	25,325	2,408	9.7

Source: Statistisches Bundesamt, Germany, Bundesminister der Wirtschaft, Germany

Unemployment by Duration (in %)

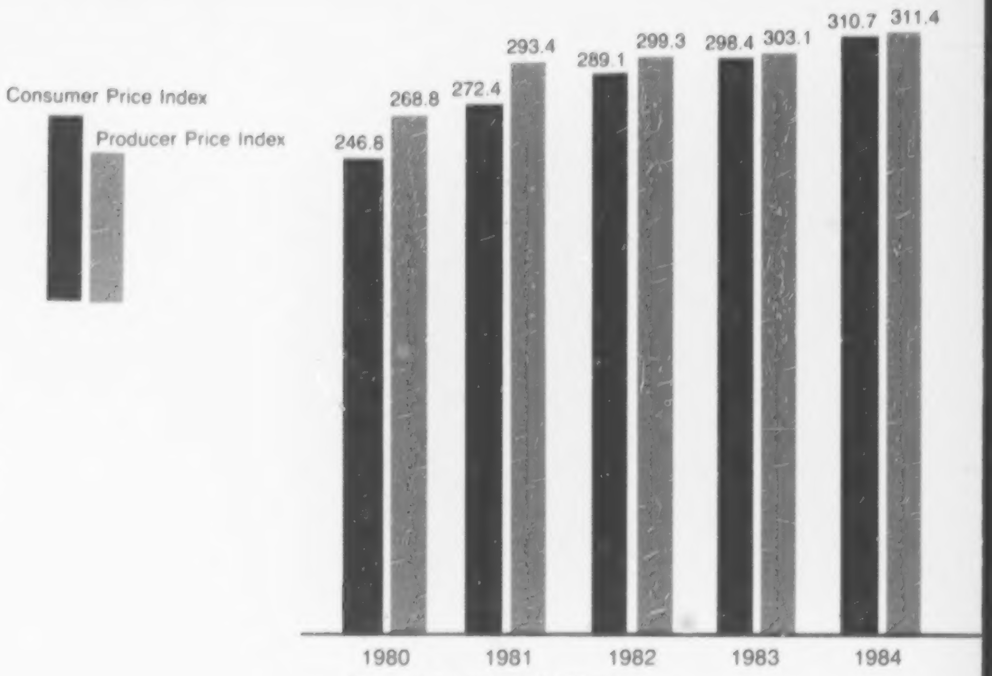
	LESS THAN 5 WEEKS	5-14 WEEKS	15-25 WEEKS	26 WEEKS AND OVER
1979	16.6	25.2	18.3	39.9
1980	17.7	27.5	18.6	36.2
1981	15.9	26.4	19.5	38.1
1982	12.0	32.4	18.3	46.4
1983	9.2	19.9	16.7	54.1
1984	9.3	19.7	19.8	52.2

Source: Bundesanstalt fuer Arbeit

U.S.A.

PRICES AND WAGES

Wages and inflation (1967 = 100)



Source: U.S. Department of Labor

Consumer Price Index

Period		1967 = 100	Change from previous year %
1960	average	88.7	+ 1.6
1970	"	116.3	+ 5.9
1977	"	181.5	+ 6.5
1978	"	195.4	+ 7.7
1979	"	217.4	+ 11.3
1980	"	246.8	+ 13.5
1981	"	272.4	+ 10.4
1982	"	289.1	+ 6.1
1983	"	298.4	+ 3.2
1984	"	310.7	+ 4.2
Aug. 1985	"	323.0	+ 2.5

Source: U.S. Department of Labor

Producer Price Index

Period		1967 = 100	Change from previous year %
1960	average	94.9	+ 0.1
1970	"	110.4	+ 3.7
1977	"	194.2	+ 6.1
1978	"	209.3	+ 7.8
1979	"	235.6	+ 12.6
1980	"	268.8	+ 13.8
1981	"	293.4	+ 9.2
1982	"	299.3	+ 2.0
1983	"	303.1	+ 1.3
1984	"	311.4	+ 3.0
Aug. 1985	"	307.2	− 1.3

Source: U.S. Department of Labor

U.S.A. Gross Hourly Earnings (in $)
– average –
Manufacturing Industry

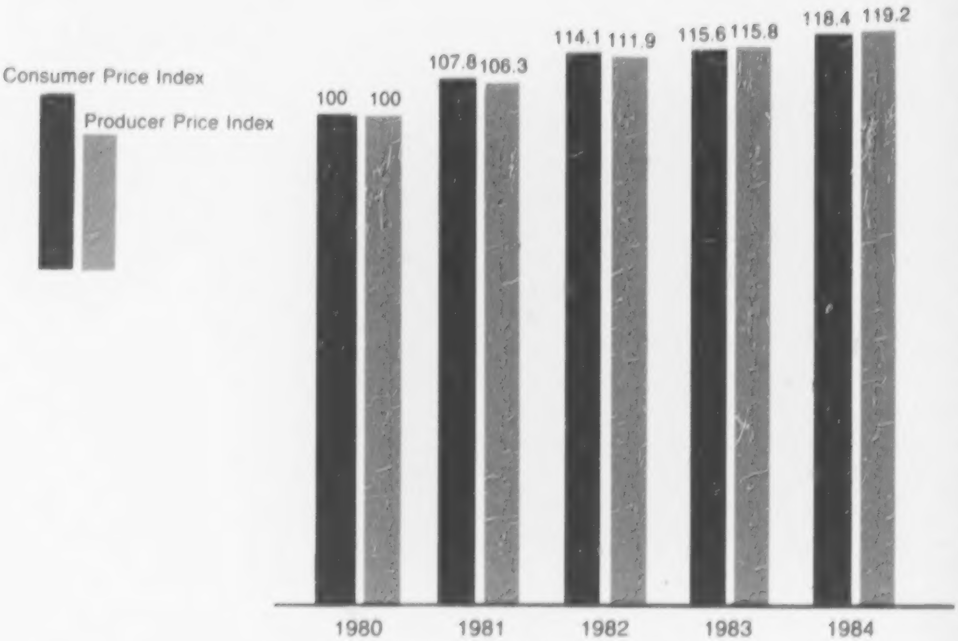
1982	8.49
1983	8.83
1984	9.19
Aug. 1985	9.50

Source: U.S. Department of Commerce

GERMANY

PRICES AND WAGES

Wages and inflation (1980 = 100)



Source: Statistisches Bundesamt, Germany
Deutsche Bundesbank, Germany

Consumer Price Index

Period		1980 = 100	Change from previous year %
1974	average	78.7	+ 13.4
1975	"	82.3	+ 4.6
1976	"	85.4	+ 3.8
1977	"	87.7	+ 2.7
1978	"	88.7	+ 1.1
1979	"	93.0	+ 4.8
1980	"	100	+ 7.5
1981	"	107.8	+ 7.8
1982	"	114.1	+ 5.8
1983	"	115.6	+ 3.3
1984	"	118.4	+ 2.4
1985	Jan. "	120.0	+ 2.1
	Feb. "	120.5	+ 2.3
	March "	120.9	+ 2.5
	April "	121.1	+ 2.5
	May "	121.2	+ 2.5
	June "	121.3	+ 2.3
	July "	121.1	+ 2.3
	Aug. "	120.7	+ 2.1

Source: Deutsche Bundesbank, Germany

Producer Price Index

Period		1980 = 100	Change from previous year %
1974	average	77.4	+ 6.9
1975	"	82.0	+ 5.9
1976	"	85.6	+ 4.4
1977	"	88.7	+ 3.6
1978	"	91.1	+ 2.7
1979	"	94.9	+ 4.2
1980	"	100	+ 5.4
1981	"	106.3	+ 6.3
1982	"	111.9	+ 5.3
1983	"	115.8	+ 1.5
1984	"	119.2	+ 2.9
1985	Jan. "	121.2	+ 2.9
	Feb. "	121.6	+ 3.1
	March "	121.8	+ 3.0
	April "	122.0	+ 2.8
	May "	122.1	+ 2.7
	June "	122.0	+ 2.5
	July "	122.1	+ 2.3
	Aug. "	121.9	+ 2.2

Source: Deutsche Bundesbank, Germany

Germany Gross Hourly Earnings (in DM)

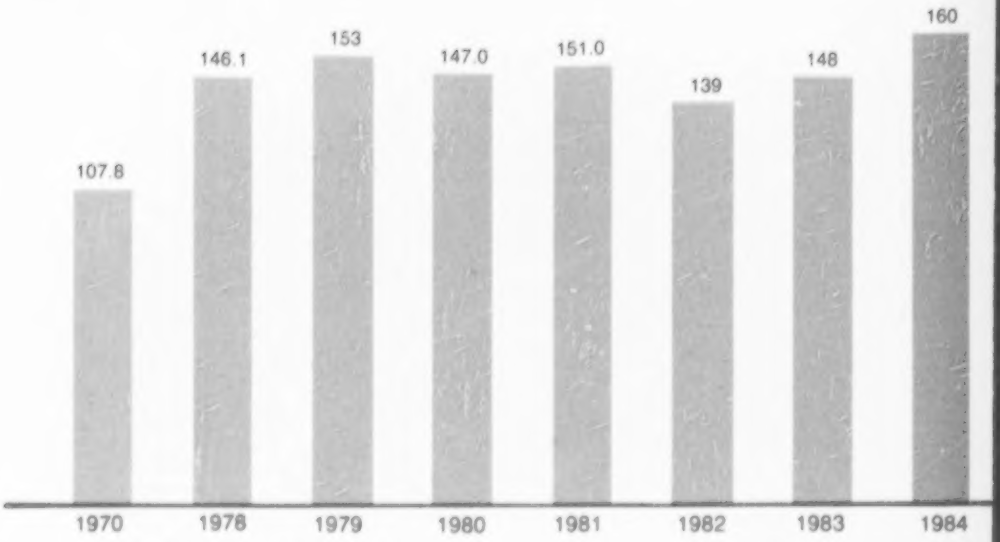
— average — Manufacturing Industry	
1982	14.66
1983	15.15
1984	15.50
April 1985	16.20

Source: Deutsche Bundesbank, Germany

U.S.A.

INDUSTRIAL PRODUCTION

Index of Industrial Production
1967 = 100



Source: U.S. Department of Commerce

Percentage change
from preceding year and quarter

1979	4.4
1980	-3.6
1981	2.7
1982	-8.2
1983	6.5
1984	8.1
1985 Sept.	5.0

Source: U.S. Department of Commerce

U.S.A.
Capacity Utilization Rate
(Percent; Industry)

1970	79.5
1975	72.9
1980	79.6
1981	79.4
1982	71.1
1983	75.2
1984	81.7

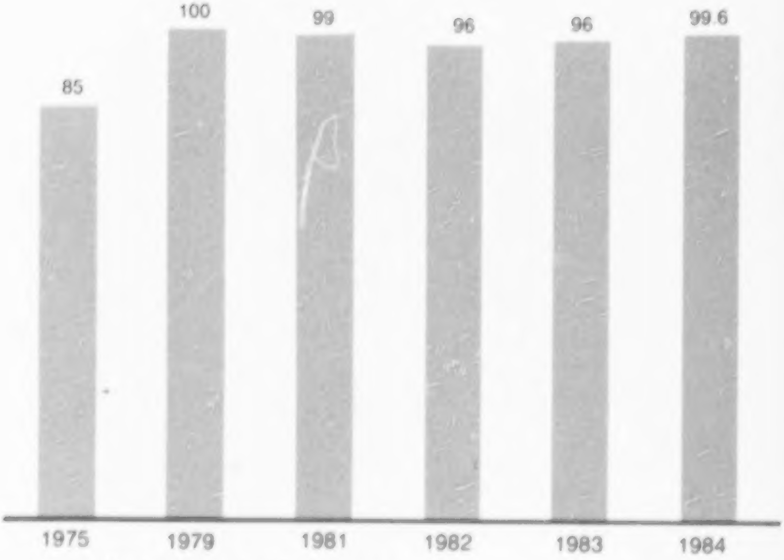
Source: U.S. Department of Commerce

GERMANY

INDUSTRIAL PRODUCTION

Index of Industrial Production

Index: 1980 = 100



Source: Organization for Economic Cooperation and Development (OECD)

Percentage change
from preceding year and quarter

1975	-
1979	-
1981	-1.0
1982	-3.0
1983	0.0
1984	3.8

Source: Organization for Economic Cooperation and Development (OECD)

GERMANY
Capacity Utilization Rate
(Percent; Industry)

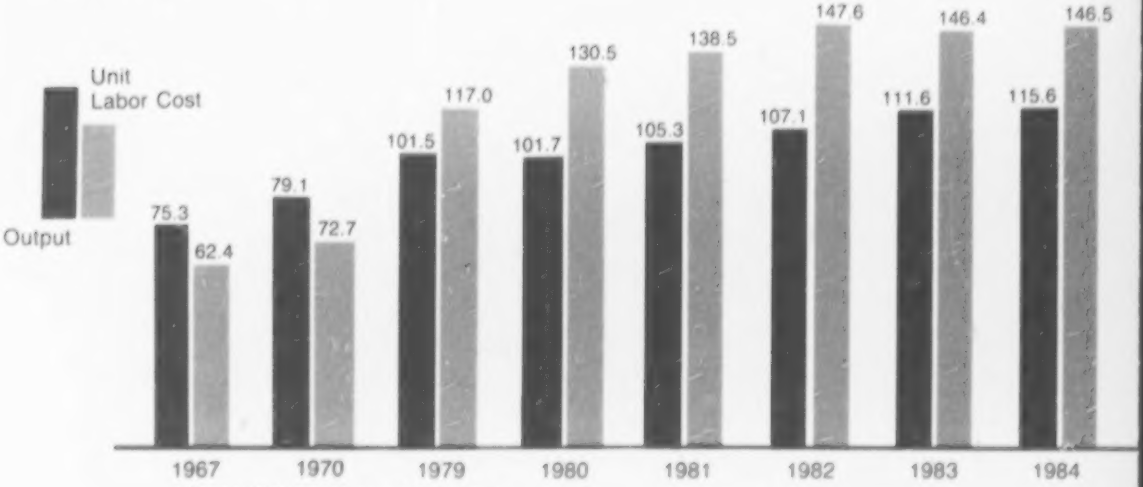
1970	97.1
1975	82.6
1980	92.1
1981	89.4
1982	86.6
1983	86.4
1984	88.3

Source: Statistisches Bundesamt, Germany

U.S.A.

PRODUCTIVITY AND UNIT LABOR COST IN MANUFACTURING

Output and Unit Labor Cost per Hour
Index: 1977 = 100
(on $ basis)



Source: U.S. Department of Commerce

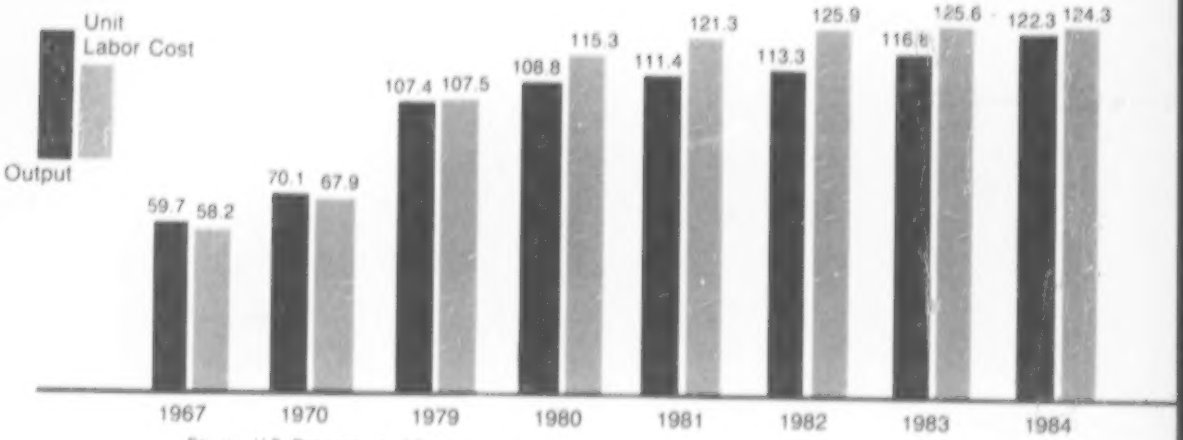
Period	Unit Labor Cost in $	Output per Man-Hour	Hourly Compensation
1967	62.4	75.3	47.0
1970	72.7	79.1	57.6
1979	117.0	101.5	118.8
1980	130.5	101.7	132.7
1981	138.5	105.3	145.8
1982	147.6	107.1	158.0
1983	146.4	111.6	163.4
1984	146.5	115.6	169.4

Source: U.S. Department of Commerce

GERMANY

PRODUCTIVITY AND UNIT LABOR COST IN MANUFACTURING

Output and Unit Labor Cost per Hour
Index: 1977 = 100
(on DM basis)



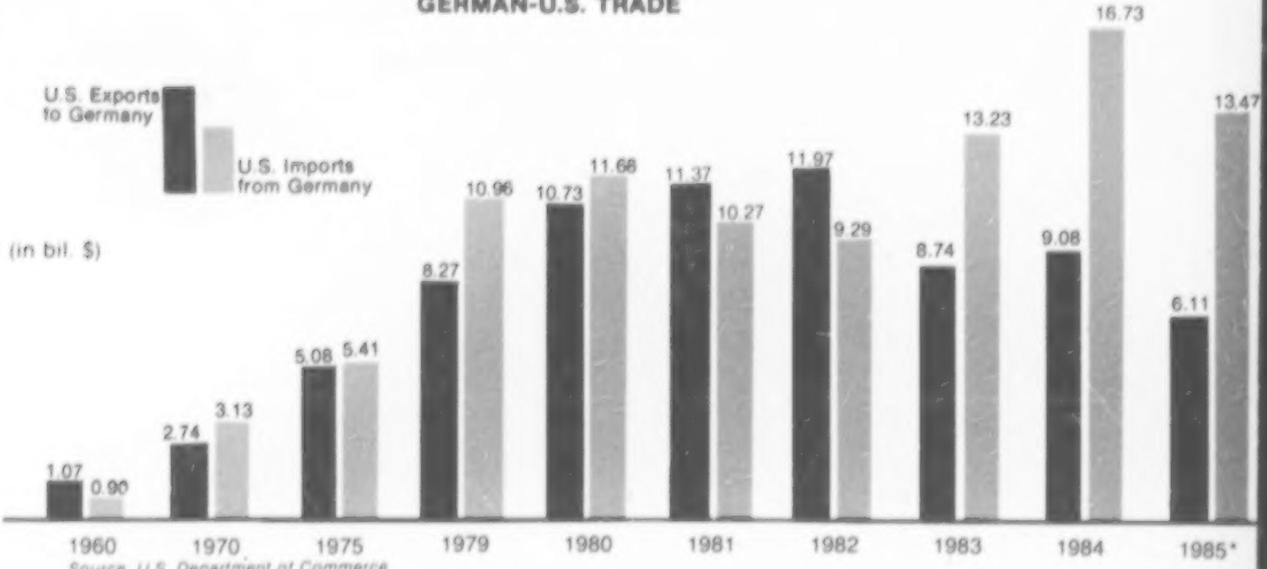
Source: U.S. Department of Commerce

Period	Unit Labor Cost in $	Output per Man-Hour	Hourly Compensation
1967	58.2	59.7	34.8
1970	67.9	70.1	47.6
1978	105.0	102.5	107.7
1979	107.5	107.4	115.4
1980	115.3	108.8	125.5
1981	121.3	111.4	135.1
1982	125.9	113.3	142.6
1983	125.6	116.8	146.7
1984	124.3	122.3	152.1

Source: U.S. Department of Commerce

GERMAN-U.S. TRADE

Grand Total (in bil. $)



Source: U.S. Department of Commerce
**1985, August*

Major Items of U.S. – German Trade (in mil.$)

U.S. Exports to Germany 1980	1983	1984		U.S. Imports from Germany 1980	1983	1984
951.1	776.6	466.9	Food and live animals	168.8	206.2	259.4
31.2	10.6	5.9	Meat and prep.	2.5	2.5	3.3
6.4	1.8	1.6	Dairy products and eggs	16.0	33.6	32.0
19.8	13.5	10.4	Fish and prep.	1.5	4.7	2.5
223.8	73.3	19.5	Cereals and prep.	6.7	16.5	12.2
291.3	125.9	137.5	Fruits and vegetables	34.3	62.5	63.8
361.6	533.5	272.5	Animal feeding-stuffs	6.6	6.4	6.6
3.1	—	5.3	Coffee, cocoa, spices and prep.	69.3	52.6	95.3
246.0	186.5	220.0	Beverages and tobacco	145.5	208.2	226.2
—	—	—	Beer	43.4	18.3	—
2.0	—	0.6	Wine	97.3	—	105.4
9.7	—	8.1	Alcoholic beverages, distilled	—	203.2	222.1
234.1	172.4	42.1	Tobacco, raw and manufactured	2.1	2.8	2.2
1,500.3	1,134.9	944.3	Crude materials, inedible, exc. fuel	130.1	95.9	131.3
102.9	12.7	11.8	Hides, skins and furskins undressed	3.4	1.8	2.9
398.5	422.6	197.4	Soybeans	—	—	—
66.9	51.6	50.1	Rubber, incl. synthetic and reclaimed	3.3	14.0	22.2
134.6	151.1	78.2	Wood, lumber and cork	0.5	0.9	1.4
202.9	218.9	218.1	Pulps and waste paper	—	0.1	0.7
101.6	114.7	76.5	Raw textile fibers and their waste	11.7	15.3	26.1
84.7	—	15.9	Crude fertilizers and minerals	8.6	12.6	19.4
330.3	85.1	101.6	Metalliferous ores and metal scrap	88.5	31.2	35.0
112.3	83.9	91.1	Nonferrous metal scrap	64.9	12.3	15.0
18.4	—	22.4	Vegetable materials, crude	1.8	2.7	4.4
216.4	113.2	90.0	Mineral fuels and lubricants	26.3	93.6	69.7
136.5	82.9	50.3	Coal, coke, briquettes, lignite, peat	4.4	—	—
79.7	30.1	39.7	Petroleum and petroleum products	21.9	93.6	69.6

Source: U.S. Department of Commerce

Continued

Major Items of U.S.–German Trade (in mil.$) (continued)

U.S. Exports to Germany				U.S. Imports from Germany		
1980	1983	1984		1980	1983	1984
35.8	24.1	20.0	Oils and fats, animal and vegetable	2.5	2.7	3.4
850.8	902.0	1,057.6	Chemicals	1,019.2	1,255.0	1,575.5
396.8	484.5	582.9	Organic and inorganic chemicals	512.0	660.4	856.9
25.9	30.0	11.5	Essent. oils, perfume materials, soaps	27.6	44.0	64.2
23.4	22.7	18.3	Dyeing, tanning and coloring materials	97.2	133.2	168.9
133.1	159.0	423.2	Medicinal and pharmaceutical products	92.1	115.6	124.0
142.9	109.9	129.7	Synthetic resins and plastic materials	149.4	180.1	203.1
990.9	517.9	492.4	Manufactured goods by chief material	1,493.0	1,675.5	2,615.1
24.6	19.7	7.3	Leather	18.4	26.4	36.5
9.8	9.0	9.0	Tires and tubes for tires	82.9	56.7	82.2
127.8	66.0	72.5	Textile yarn and fabrics	90.7	119.2	186.7
77.1	–	–	Wood and cork	6.8	12.0	17.2
142.9	86.0	79.1	Paper and paperboard	21.0	78.9	169.3
47.2	17.7	29.5	Iron and steel	557.1	562.2	1,034.0
295.7	–	91.1	Nonferrous metals	202.4	290.6	411.6
180.7	117.3	121.4	Metal manufactures	284.1	271.4	371.6
49.0	64.0	68.0	Glass, Glassware, Pottery	151.3	166.6	190.8
3,916.4	3,573.9	4,073.5	Machinery and transport equipment:	7,562.9	7,776.8	10,342.8
2,147.4	2,875.1	2,900.0	Machines, exc. electrical	2,956.6	–	–
987.0	698.7	745.7	Electrical machines and apparatus	644.7	715.2	894.8
782.0	–	795.5	Transport equipment	3,961.6	4,102.4	259.7
74.2	63.4	57.0	–Metalworking machinery	334.2	232.4	338.8
1,083.4	493.8	697.4	–Office machines	195.1	272.1	357.7
50.7	45.0	42.4	–Agricultural machines	199.4	211.2	163.1
42.0	27.4	30.8	–Textile and leather machinery	249.2	325.7	252.5
291.5	124.6	155.6	–Other machs. for spec. industries	679.1	1,279.0	–
212.8	193.6	205.6	–Telecommunications apparatus	84.4	67.5	105.7
97.2	–	–	–El. medical and radiolog. apparatus	113.9	–	266.8
230.3	228.5	254.5	–Road motor vehicles and parts	3,889.0	3,566.3	5,376.0
533.0	444.6	539.0	–Aircraft and spacecraft and parts	48.8	99.2	194.5
1,631.0	868.6	881.3	Miscellaneous manufactured articles:	890.6	1,051.1	1,411.8
72.0	35.6	28.7	Clothing and accessories	22.9	40.1	8.5
4.5	–	–	Footwear	16.2	16.6	19.4
482.6	414.1	455.4	Prof., scientific and controlling instruments	277.4	288.3	388.0
210.6	357.5	38.5	Photo equipment, photographic supplies	52.7	179.3	229.8
3.4	3.2	2.6	Watches and clocks	52.0	40.6	55.4
68.1	99.7	60.3	Musical instruments, parts, accessories	38.5	–	–
26.0	31.1	25.7	Printed matter	36.9	16.8	58.6
52.3	48.1	50.1	Rubber and plastic manufactures	116.1	–	177.1
116.1	65.9	–	Toys, sporting goods, baby carriages	38.6	36.1	56.3
526.6	–	303.0	Artworks, collectors pieces, antiques, jewelry	83.8	89.8	129.7
256.5	–	228.0	Items not classified by kind	242.3	330.2	360.4

Source: U.S. Department of Commerce

DIRECT INVESTMENT

U.S. Direct Investment Abroad (in mil. $)
(annual rates)

By Country	1970	1975	1980	1981	1982	1983	1984
United Kingdom	8,016	13,927	28,460	30,316	29,914	30,851	32,145
Japan	1,482	3,339	6,225	6,762	6,928	8,059	8,374
Germany	4,313	8,726	15,415	15,841	15,860	16,008	15,231
Canada	21,015	31,038	45,119	47,073	46,183	47,553	50,467
Italy	1,464	2,679	5,397	5,275	4,642	4,790	4,998
France	2,643	5,743	9,347	9,132	7,807	6,900	6,478
Switzerland	2,631	5,152	11,280	12,499	13,336	15,065	15,985

Source: U.S. Department of Commerce/U.S. Bureau of Economic

Foreign Direct Investment in the U.S.A. (in mil. $)
(annual rates)

By Country	1970	1978	1980	1981	1982	1983	1984
United Kingdom	4,127	7,638	14,105	18,471	28,447	32,152	38,099
Germany	680	3,654	7,596	9,459	9,850	10,845	11,956
Japan	229	2,749	4,723	7,688	9,679	11,336	14,817
Canada	3,117	6,180	12,162	11,870	11,708	11,434	14,001

Source: U.S. Department of Commerce/U.S. Bureau of Economic

DIRECT INVESTMENT

German Direct Investment Abroad (in mil. DM)
(annual rates)

By country	1977	1978	1979	1980	1981	1982	1983	1984
United States	1,338.8	1,885.8	3,692.6	3,380.1	3,402.8	3,274.5	2,748.8	3,257.5
Belgium/Luxemburg	478.4	573.3	498.9	1,028.1	1,020.5	749.4	621.7	474.7
France	413.4	543.3	721.9	453.7	621.6	304.4	383.2	494.1
Brazil	587.8	424.3	532.9	362.7	731.0	603.2	528.6	130.2
Switzerland	181.6	391.0	136.8	542.9	367.0	307.4	614.1	211.7
Canada	371.0	407.7	407.5	421.5	479.0	382.3	-14.2	208.0
United Kingdom	150.6	242.7	85.7	171.0	295.0	1,050.9	1,058.0	1,091.1
Spain	71.9	244.5	188.1	228.2	91.0	304.4	448.4	533.2
Netherlands	222.1	287.6	550.6	254.8	60.7	556.1	-836.2	579.5
Italy	75.6	97.2	150.7	212.8	164.4	269.3	162.1	207.9
By industry	1977	1978	1979	1980	1981	1982	1983	1984
Chemicals, medical, pharmac. products	663.4	708.3	625.6	835.7	1,546.2	755.6	1,117.9	925.4
Finance	594.6	673.4	678.0	968.2	1,884,7	905.3	1,730.6	1,321.8
Electrical engineering	670.5	312.0	855.6	605.0	477.6	939.2	648.7	757.8
Motor vehicles	438.6	368.7	510.2	897.9	1,339.1	1,004.6	1,368.6	1,182.8
Mechanical engineering	272.8	438.9	546.4	807.8	556.6	850.7	1,048.6	416.5
Iron & Steel	301.3	718.3	864.2	224.0	-8.9	663.9	-671.6	260.0
Petroleum	344.6	263.4	261.9	301.9	544.2	786.3	400.8	425.0
Insurance	206.8	212.9	959.6	233.7	156.2	671.0	247.9	276.8
Real estate	100.3	113.0	219.8	151.1	235.7	141.7	65.1	267.9

Source: Deutsche Bundesbank, Germany

Foreign Direct Investment in Germany (in mil. DM)
(annual rates)

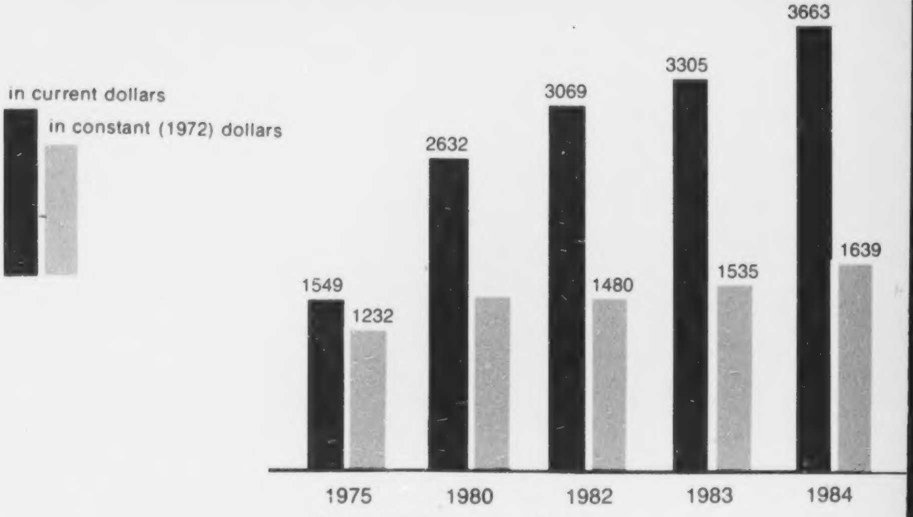
By country	1977	1978	1979	1980	1981	1982	1983	1984
United States	1,155.9	874.0	216.4	172.2	405.5	1,220.9	1,236.2	-132.1
Switzerland	700.8	375.9	256.8	88.5	670.2	489.8	901.8	285.9
United Kingdom	361.9	721.3	363.0	908.8	848.4	663.9	223.3	1,591.4
Netherlands	467.8	-8.4	358.2	574.0	725.7	306.7	-753.9	86.0
France	305.6	274.7	86.9	175.1	281.3	429.7	352.7	359.0
Belgium/Luxemburg	245.1	312.7	225.7	36.1	214.0	200.9	124.3	-24.6
Japan	135.0	94.3	89.2	155.3	206.2	262.0	263.4	351.8
Sweden	34.3	152.5	53.9	104.7	87.2	1.9	272.0	1.5
Italy	66.5	-1.9	46.2	32.0	43.0	15.1	-46.4	435.4
Austria	20.1	21.1	18.0	30.0	59.0	63.9	129.9	167.6
By industry	1977	1978	1979	1980	1981	1982	1983	1984
Holding companies	278.7	1,355.6	300.1	15.2	450.6	1,541.5	416.2	445.8
Petroleum	374.5	307.3	-258.5	298.4	228.6	373.6	-139.5	377.5
Finance	1,103.1	222.9	321.9	603.0	712.4	535.9	178.1	1,407.2
Chemicals	157.5	349.3	345.0	950.9	476.0	-118.0	434.1	82.2
Electrical engineering	332.4	245.8	469.9	31.1	469.7	290.0	452.9	39.1
Mechanical engineering	323.8	158.5	77.0	213.6	422.4	456.8	408.8	338.2
Motor vehicles	144.4	-33.7	-101.9	26.3	361.3	72.2	501.8	271.0
Food	-80.4	-8.1	259.1	-222.4	-101.7	6.9	207.3	93.3
Nonferrous metals	39.7	35.1	5.3	80.2	173.0	6.5	583.6	79.8
Iron & Steel	103.8	216.9	139.4	-29.3	112.4	-275.8	-1,188.7	-126.5

Source: Deutsche Bundesbank, Germany
Bundesministerium fur Wirtschaft, Germany

U.S.A.

GROSS NATIONAL PRODUCT
(in bil. $)

GNP Total



Source: U.S. Department of Commerce

GNP by Type of Expenditure
(at current prices)

Period	Gross National Product	% chg. from yr. earlier	Personal Consumption	Government Consumption	Gross Private Domestic Investment	Net Exports of Goods and Services
1972	1,185.9	10.1	737.1	253.1	195.0	0.7
1973	1,326.4	11.8	812.0	270.4	229.8	14.2
1974	1,434.2	8.1	888.1	304.1	228.7	13.4
1975	1,549.2	8.0	976.4	339.9	206.1	26.8
1976	1,718.0	10.9	1,084.3	362.1	257.9	13.8
1977	1,918.3	11.7	1,204.4	393.8	324.1	-4.0
1978	2,163.9	12.8	1,346.5	431.9	386.6	-1.1
1979	2,417.8	11.7	1,507.2	474.4	423.0	13.2
1980	2,631.7	8.8	1,668.1	537.8	401.9	23.9
1981	2,957.8	12.4	1,849.1	596.5	484.2	28.0
1982	3,069.3	3.8	1,984.9	650.5	414.9	19.0
1983	3,304.8	7.7	2,155.9	685.5	471.6	-8.3
1984	3,662.8	10.8	2,341.8	747.4	637.8	-64.2
1985 I	3,819.6	5.6	2,445.6	719.0	646.8	-70.5
1985 II	3,904.4	5.8	2,497.5	810.1	640.9	-93.4

Source: U.S. Department of Commerce

GNP by Type of Expenditure
(at constant 1972 prices)

Period	Gross National Product	% chg. from yr. earlier	Personal Consumption	Government Consumption	Gross private domestic investment			Net Exports of Goods and Services
					Nonresidential fixed	Residential fixed	Change in business inventories	
1972	1,185.9	5.7	737.1	253.1	121.0	63.8	10.2	0.7
1973	1,254.3	5.8	767.9	253.3	138.1	62.3	17.2	15.5
1974	1,246.3	-.6	762.8	260.3	135.7	48.2	11.6	27.8
1975	1,231.6	-1.2	779.4	265.2	119.3	42.2	-6.7	32.2
1976	1,298.2	5.4	823.1	265.2	125.6	51.2	7.8	25.4
1977	1,369.7	5.5	864.3	269.2	140.3	60.7	13.3	22.0
1978	1,438.6	5.0	903.2	274.6	158.3	62.4	16.0	24.0
1979	1,479.4	2.8	927.6	278.3	169.9	59.1	7.3	37.2
1980	1,475.0	-.3	931.8	284.3	165.8	47.1	-4.4	50.3
1981	1,512.2	2.5	950.5	287.0	175.0	44.5	11.3	43.8
1982	1,480.0	-2.1	963.3	292.7	166.9	37.9	-10.4	29.7
1983	1,534.7	3.7	1,009.2	291.9	171.0	53.7	-3.6	12.6
1984	1,639.3	6.8	1,062.4	302.1	204.9	60.2	24.8	-15.0
1985 I	1,665.0	3.4	1,092.0	307.0	203.0	60.8	1.1	-28.4
1985 II	1,671.6	2.3	1,103.4	313.5	219.0	60.9	-8.3	-33.3

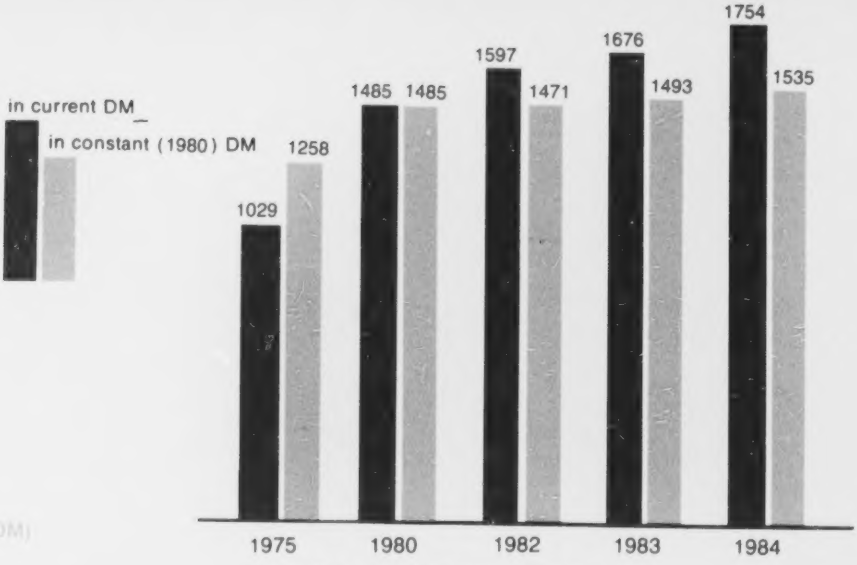
Source: U.S. Department of Commerce

GERMANY

GROSS NATIONAL PRODUCT

(in mil. DM)

GNP Total



Source: Statistisches Bundesamt, Germany

GNP by Type of Expenditure (in mil. DM)

(at current prices)

Period	Gross National Product	% chg. from yr. earlier	Personal Consumption	Government Consumption	Investment	Net Exports of Goods and Services
1960	303.0	11.7	171.8	40.5	73.6	60.7
1970	675.7	13.0	368.9	106.5	172.1	152.9
1973	918.9	11.4	495.4	163.2	219.3	217.1
1974	985.6	7.3	533.7	190.2	212.7	279.0
1975	1,029.4	4.4	585.3	210.0	209.4	271.2
1976	1,126.2	9.4	632.5	221.7	225.7	309.0
1977	1,199.2	6.5	683.2	235.0	242.4	325.8
1978	1,291.6	7.7	728.9	252.9	266.0	344.7
1979	1,396.6	8.1	785.0	273.3	303.4	377.4
1980	1,485.2	6.3	840.8	297.8	335.8	422.3
1981	1,545.1	4.0	887.9	318.2	335.2	482.1
1982	1,597.1	3.4	918.1	325.2	326.9	517.5
1983	1,675.8	4.9	957.5	336.5	344.1	526.4
1984	1,753.7	4.6	987.5	350.2	354.6	587.5
1985 I.	429.3	2.0	239.6	83.1	69.3	157.4
II.	444.3	5.1	251.4	85.3	90.2	160.3

Source: Statistisches Bundesamt, Germany

GNP by Type of Expenditure (in mil. DM)

(at constant 1980 prices)

Period	Gross National Product	% chg. from yr. earlier	Personal Consumption	Government Consumption	Investment	Net Exports of Goods and Services
1960	731.7	—	370.6	137.5	189.9	120.9
1970	1,134.0	5.0	606.8	211.9	291.9	248.4
1973	1,274.1	4.7	687.0	243.7	316.8	310.6
1974	1,276.5	0.2	691.5	253.4	286.4	348.0
1975	1,258.0	-1.4	713.9	262.8	271.3	324.6
1976	1,328.2	5.6	740.4	266.8	281.0	356.7
1977	1,363.4	2.7	771.8	270.4	291.1	368.5
1978	1,407.9	3.3	801.5	280.8	304.7	383.7
1979	1,463.6	4.0	830.4	290.3	326.7	401.0
1980	1,485.2	1.5	840.8	297.8	335.8	422.3
1981	1,485.3	0.0	836.4	303.3	319.7	456.7
1982	1,471.0	-1.0	825.2	300.7	302.9	471.5
1983	1,493.8	1.5	834.4	301.7	312.4	470.7
1984	1,534.8	2.7	839.6	308.8	314.9	506.6
1985 I	373.3	0.1	200.4	75.4	60.4	133.8
1985 II	385.0	3.2	208.8	77.2	79.1	134.6

Source: Statistisches Bundesamt, Germany

GERMANY/ U.S.A.

CURRENCY EXCHANGE RATES

Average Exchange Rates
(value of $1.00 in DM)

Annual Average

1975	DM 2.46
1976	2.52
1977	2.32
1978	2.01
1979	1.83
1980	1.82
1981	2.25
1982	2.43
1983	2.55
1984	2.82
1985 (through Sept)	2.97

Source: Deutsche Bundesbank, Germany

Monthly Average

1983	Jan.	DM 2.3884
	Feb.	2.4267
	March	2.4075
	Apr.	2.4387
	May	2.4682
	June	2.5475
	July	2.5876
	Aug.	2.6730
	Sep.	2.6681
	Oct.	2.6017
	Nov.	2.6833
	Dec.	2.7477
1984	Jan.	DM 2.8064
	Feb.	2.7050
	March	2.5961
	Apr.	2.6411
	May	2.7504
	June	2.7370
	July	2.8471
	Aug.	2.8871
	Sept.	3.0225
	Oct.	3.0685
	Nov.	2.9886
	Dec.	3.1015
1985	Jan.	DM 3.1677
	Feb.	3.2921
	March	3.3090
	Apr.	3.0830
	May	3.1139
	June	3.0631
	July	2.8168
	Aug.	2.7900
	Sep.	2.8401

Source: Deutsche Bundesbank, Germany

Ratio of Savings to Disposable Personal Income
(percent)
U.S.A.

1979	5.9
1980	6.0
1981	6.7
1982	6.2
1983	5.0
1984	6.1

Source: U.S. Department of Commerce, International Trade Administration

Ratio of Savings to Disposable Personal Income
(percent)
Germany

1979	12.6
1980	12.8
1981	13.5
1982	12.8
1983	11.3
1984	11.5

Source: U.S. Department of Commerce, International Trade Administration

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GERMAN FIRM	MOST IMPORTANT U.S. AFFILIATE OR PARTICIPATION	PERCENT SHARE	REVENUE (millions $)
Bayer	Mobay Chemical	100	1,552
	Miles Laboratories	100	1,152
	Helena Chemical	100	418
	Agfa-Gevaert	100	397
	Other Companies	80-100	421
			3,940
Volkswagenwerk AG	Volkswagen of America	100	4,076
	Royal Business Machines	66	500E
			4,576E
BASF	BASF Wyandotte	100	1,185
	Badische Corp.	100	709
	BASF Systems	100	129
	Fritzsche Dodge & Olcott	100	70
	Knoll Pharmaceutical	100	88
			2,181
Hoechst	American Hoechst	100	1,760
Siemens	Siemens Communication	100	1,600
	Siemens Components	100	
	Siemens Medical Systems	100	
	Siemens-Allies	100	
	Other Companies	100	
Thyssen Group	Budd Co.	100	1,527
Daimler-Benz Group	Freightliner	100	1,282
Henkel KGaA	Clorox	23	975
	Henkel Corp.	100	
	Amchen Products	100	308
			1,283
Tengelmann Group	Great A&P Tea	51	5,878
Flick Group	WR Grace	26	6,728
Franz Haniel & Cie	Scrivner Inc.	100	2,300
Otto Versand	Spiegel Inc.	100	721

Source: Forbes, July 1985

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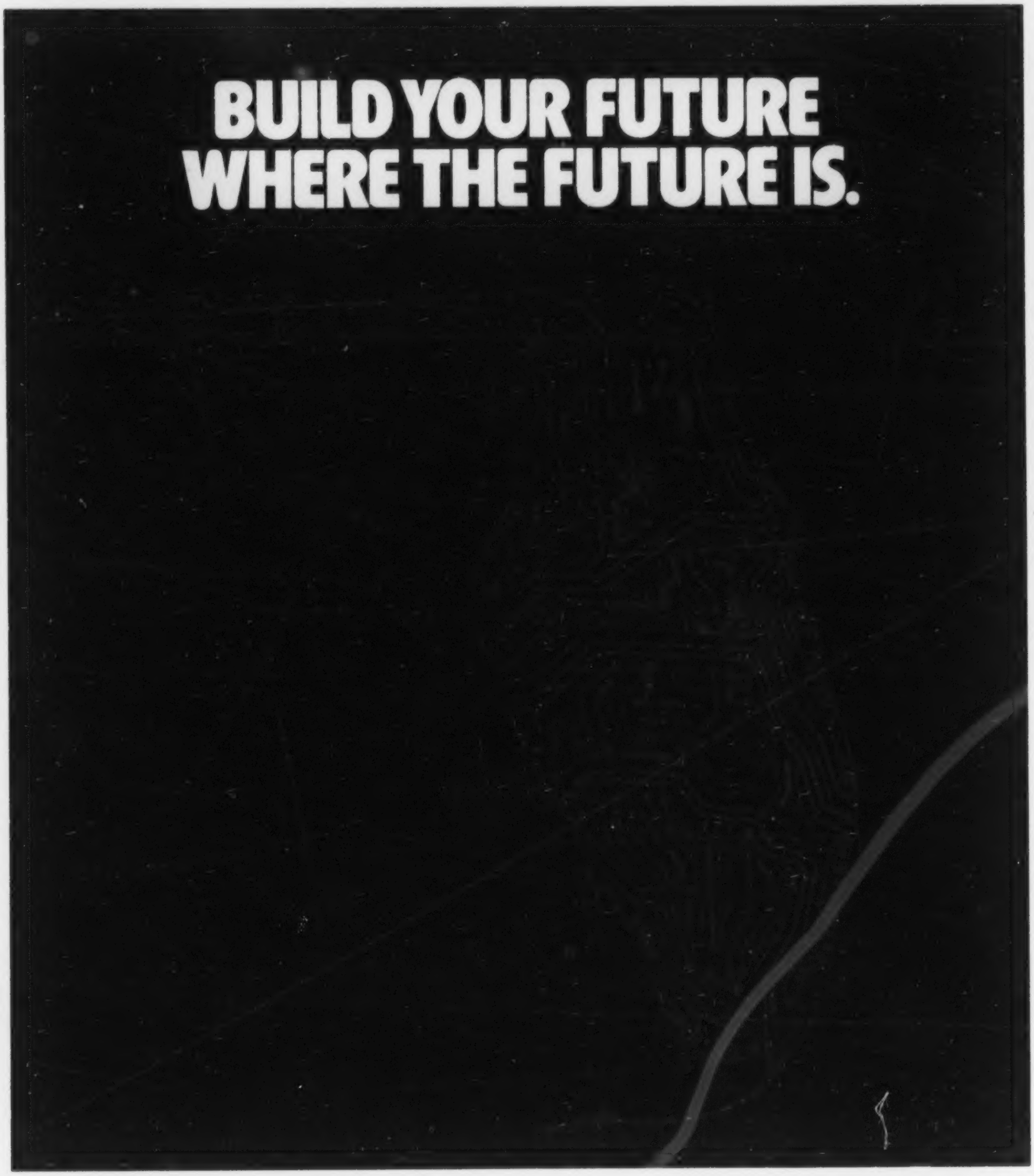

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